

# ARCHITECTURE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

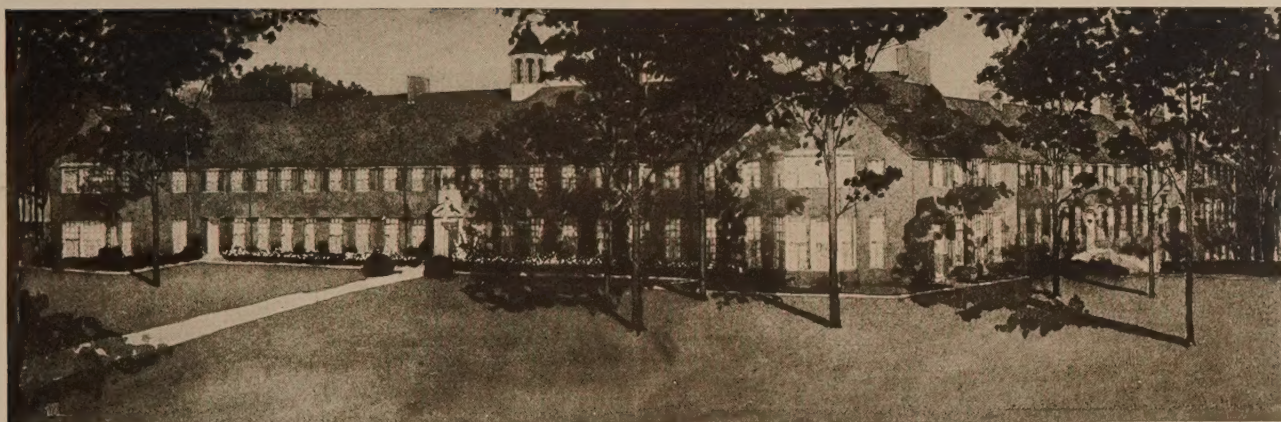
VOL. XLI

FEBRUARY, 1920

No. 2

## The Mount Vernon Seminary, Washington, D. C.

*By Wesley Sherwood Bessell*



Perspective.

THE problems presented in the development of a college or educational institution are so varied and numerous, that it is almost impossible to set down any particular one. An outstanding purpose, however, always to be considered in our present-day institutions devoted to the higher education of our future citizens, is the problem of how to overcome the prevailing feeling, when one enters such buildings, of "this is an institution."

Long, uninteresting tunnel-like corridors, large forbidding rooms, or cold, nondescript, characterless and poorly furnished parlors seem to be abundant. This feeling of "institution" has always left its impression upon the writer, so that in approaching the problem of providing the proper dormitories, together with the administration and purely educational facilities under one roof, this was the uppermost obstacle to overcome. To combine all three, and still maintain an atmosphere of home, was the first and foremost idea. How well it has been met, is for others to decide, but as a problem for solution, it was most compelling and intensely interesting.

Of the other problems, that one of unity of a whole, seemed next to the elimination of the institutional atmosphere. So many schools are a collection of heterogeneous

types, that in order to avoid this, a complete scheme was developed, both as to present and future building, with gardens and all other accessories carefully studied and developed, and leading to a culmination of the whole.

Believing that any project of this sort should hold to certain defined lines as to its completed ideas, it was with this thought that the Mount Vernon Seminary was laid out. The result to be obtained being the blending of a definite type of architecture, into a whole, yet with each individual bit interesting in itself.

Aside from these main factors, there were, as one became engrossed in the problem, unlimited bits of delightful opportunities unfolding themselves. Among them special features became desirable, such rooms as a post-office, great hall, study halls, refectory, art studios, and numerous other interesting subsidiary rooms.

With all this at hand, one's imagination might easily run rampant. Think of being privileged to design and create twenty separate and distinct outside doorways, each with its own little idiosyncrasies, of the fun in slipping in little surprises here and there, all tending to add interest and picturesqueness!





CLOISTER.



THE CLOISTER ARCHES.



DOORWAY TO REFECTORY.



THE CLOISTER STAIRS.

Wesley Sherwood Bessell, Architect.

THE MOUNT VERNON SEMINARY, WASHINGTON, D. C.





Entrance-hall and corridor.



School mistress desk-library.

Situated as it is on a commanding ridge on the outskirts of Washington, and facing old Virginia, an earnest effort was made to produce in Mount Vernon Seminary an atmosphere of our traditional past. This was a consideration both without and within. It was hoped that girls attending might unconsciously absorb something of this atmosphere, something that would count in their future. To eliminate the institutional feeling and supplant it by one of a home environment, simple, dignified, and refined,

was the purpose to be accomplished if possible in the designing and execution of Mount Vernon Seminary.

The building is built on the U-shape plan with cloisters both sides and a quad, opened at one end, one hundred feet wide. This quadrangle and cloister permit the girls freedom for exercise, and are secluded from public view. All of the bedrooms at one time during the day receive sunlight, and these rooms are arranged in groups of two double rooms with a connecting bathroom and also a few double rooms



View in quad.



without these connecting baths. There are twenty single bedrooms, a senior hall and a corresponding room called the optima. These rooms are club-rooms for the girls' use.

On the third floor are sound-proof practice-rooms and an art studio.

In the lower end of the north wing above grade is located the swimming-pool, which is built of reinforced concrete and finished in white cement. This pool is twenty feet by forty feet, and four to eight feet in depth. It contains also a visitors' gallery and dressing-rooms. Back of the swimming-pool is a gymnasium of ample size.

In the south wing, lower end, is located the domestic science department and telephone-room. Here also is the kitchen with its necessary adjuncts such as the bakery, butcher shop, dairy and ice-cream room.



Main entrance design.

Just over the kitchen there is a large serving pantry fully equipped with the necessary equipment that goes with the making of economical and efficient service. Next to the pantry is the main dining-hall with windows on both sides—that means sunlight at all meals. Next to this room are the French and private dining-rooms, and to the front of these connected by a hall is located what is known as the "Great Hall." Across the entrance front are the necessary reception-rooms and administration quarters, and in the north wing, facing the north light, are all of the class-rooms.

The heating plant is located at the rear and away from the main building, and connected only by a pipe tunnel.

Such, in a brief way, is the general layout of this school, which has proven to date to be a satisfactory, complete, and workable unit.

## The Remodelling of the Residence of Mr. Isaac T. Mann

George Oakley Totten, Jr., Architect

**A**LTERATION and reconstruction seem in these times of high prices and scarcity of labor the order of the day. To make more usable what we have is the final step before entering upon what we hope is to be the greatest and most glorious construction period of all times. To alter and make attractive the old Victorian brick home which Mr. I. T. Mann had purchased in a very desirable location in Washington was the problem presented to the architect. The adjoining lot had also been acquired so that additional space might be added and light and air assured.

The first criticism which suggests itself in the old house was the excessive fenestration of the main façade. It was possible to reduce this in two ways. On the second floor the two front rooms were thrown into one, so it was possible to eliminate two windows and to add a central one, making one large group on the axes, and this had the additional advantage of giving restful plain wall surfaces on either side. The other change was placing transoms in the third-story windows, not reducing their actual but apparent size. The gables of the dormers were made steeper and enriched, and the entrance altered to be in keeping with the new design.

A cresting was placed upon the roof ridge and a balustrade around the parking. The entire building was stuccoed. This was a very successful piece of workmanship. The color of the stucco is a light yellow, similar to aged stone, and the texture rather fine.

An addition was built on the adjoining vacant lot and a two-story garage added in the rear on the side street. On the first floor the entrance hall was re-designed and the walls plastered with Caen stone cement. A ladies' reception-room and a billiard-room were added.

The one really fine feature of the old house was the staircase, but this was confined to a narrow staircase hall.

On the second floor a partition was removed, so that the staircase enters directly into a large and attractive living-hall, some forty feet square. This is panelled from floor to ceiling in walnut of a rich brown tone, as is also the main stairs.

To one side of this central hallway is the drawing-room, extending entirely across the front of the house. There had been two rooms here, but by removing the partition between them a fine large room was possible. This seemed rather high and narrow, so the apparent height was reduced by the introduction of an elliptical barrel vault and the apparent length reduced by cross ribs dividing the vault into three motives. The result is thought to be quite successful.

Directly opposite the main stairs is the sun room. Two sides of this are entirely of glass, leaded, and with just a touch of color; on the other a central fountain in tiles, and on the fourth are the entrance doorways and a fireplace. The general tone of color is a grayish green. The floor is of brownish tiles.

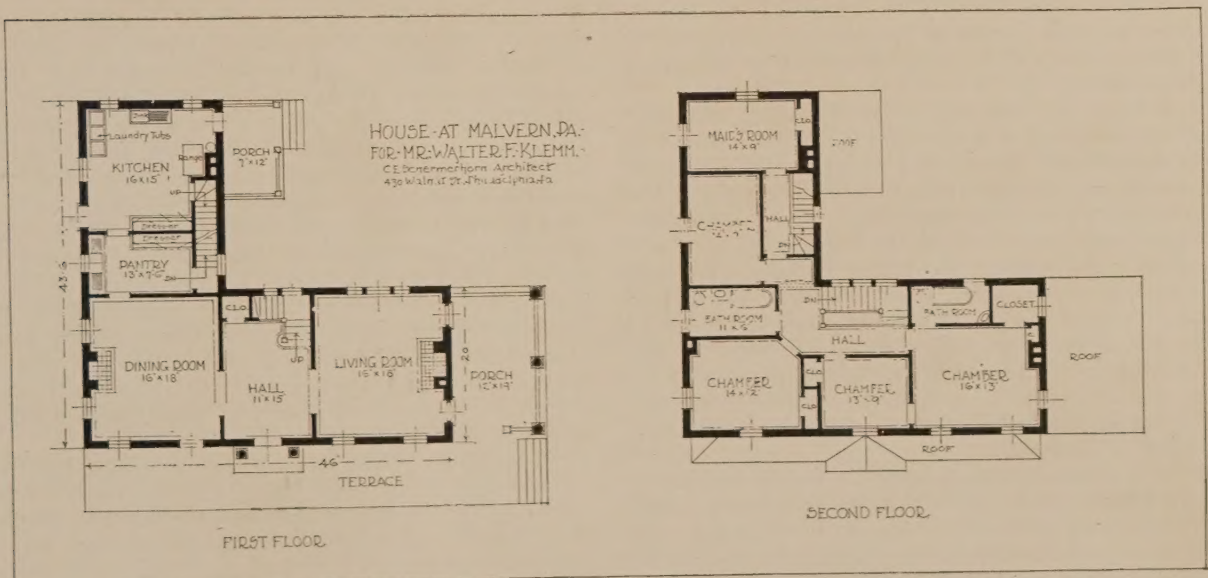
On the third side of the living-hall is the dining-room. This was also enlarged and panelled in oak and corresponds in color with the brown walnut of the hall. The ceiling of the dining-room is panelled in plaster.

The floors of the living-hall, reception-room, and dining-room are of teak.

On the third floor is the library. This is panelled to the ceiling in oak and is Elizabethan in style. Several different periods of architecture have been employed on the interior.

The style of architecture for the exterior, the transitional period of the French château, suggested itself from the fenestration and main lines of the building. Having adopted this style, great care was taken to carry it out in the minutest detail.





HOUSE AND PLANS, WALTER F. KLEMM, MALVERN, PA.

C. E. Schermerhorn, Architect.



# War Memorials

By Charles Moore

Chairman of the Commission of Fine Arts

(An address delivered at the Metropolitan Museum, New York, December 21, 1919)

IT does not make much difference what kind of a war memorial a community shall erect. There are a score or more of forms to choose from, any one of which may be suitable. They may have a building or a flag-pole, a park or a statue, a fountain or a tablet. The memorial may serve some useful purpose, like a bridge or an art gallery; or it may be its own excuse for being. Communities often excite themselves unduly, and even wax acrimonious, over the choice of a form, neglecting entirely the weightier matters of the law.

If, then, the form is not essential, is not the problem simplified? By no means. If a community could only do as most communities are doing—go to a firm of brass founders and order a tablet so many inches long and so many inches high, to fit a given space—then the problem would be as easy as selecting presents during Christmas week—and quite as satisfactory!

The ordinary method of procedure is to hold a meeting to express the desire of the community to honor the brave boys who have given their lives for their country. One such committee took to itself the name "Supreme Sacrifice Committee," and the bad taste in the name saturated the memorial they erected. The committee, on being appointed, enters into correspondence with the firms of tablet-makers. A certain committee, having less than a thousand dollars to expend, secured designs from forty-six different establishments. Five of these designs, each differing from the others but all with the same inscription, were made by a single firm in New York, to whom the job would be farmed out in the event that one of the five designs should find favor. Several founders sent more than one design; and the whole series represented, for the work of designing alone, more money than the tablet would cost. Of course, that cost is reduced by using the same general design many times, with a change of lettering or ornaments—falsely so called.

It so happened that this series of designs was submitted to a committee of five artists, each one of whom had won his spurs as an architect or a sculptor. They rejected every one of the designs. Why? In the first place, because the lettering was positively bad. Next, because the proportions were bad; because the inscriptions were not harmoniously disposed on the tablet; because there was such a profusion of ornament as to produce an example of bad taste; because the eagles and cannons and other war paraphernalia were badly designed; because some of the subjects treated were beyond the art of sculpture; in short, because the designs lacked simplicity, suitability, and elegance—because they had in them the seeds of speedy death rather than of eternal life.

All of the designs were presented in the form of drawings. In order to obtain any adequate idea of how a tablet would really look, a model is absolutely necessary. Of course, these particular designs were so bad that they could be rejected without going to the length of a model; but had any one of them given promise, a model would have been required before making final decision.

The usual committee, bewildered by so numerous an

array, would probably have chosen one of the forty-six varieties and breathed a sigh of relief that their warfare was accomplished. Then the tablet would have been erected; and before the bronze had its color no one would pay attention to it, save perhaps members of the families of those whose names it bore. On the other hand, a tablet good in form and material, with a suitable inscription well cut, is a source of joy to the beholder and of honor to the persons or events commemorated. The Romans, retreating from Britain, left behind them tablets every letter on which was a work of art.

The objection then is not to the tablet as such, but to the futile, puerile and inadequate design of the tablet. It is not to the thing itself, but to the way in which the thing is done. This is what is meant by the opening proposition. It does not much matter what kind of a war memorial you shall erect; it is the way you do it that counts.

## II

Of course every community not only desires to erect a work of art, but also confidently expects to do so. After the memorial is in place, they are going to tell people that it is the finest thing of its kind in this country—and, if in a very confident mood, they will add, the finest in the world.

Now, works of art are rare; and war memorials that are works of art are still rarer. The Kings of Assyria decorated the walls of their palaces with sculptures depicting their successful battles. Few of these works have survived. The Egyptian artists were concerned with the mysteries of life and death, and with the arts of peace. At Thebes and Karnak there are representations of fights in Syria and Mesopotamia, cut in the rock thirty-three centuries before Allenby's campaigns of restoration in 1918; but these, few in number, possess an archaeological rather than an art value. Moreover, these works are the memorials of individual kings, not of the nation. The Greeks expressed the joy of victory in festivals and processions, wherein spoils of war, animate and inanimate, found prominent place. Also, they made permanent memorials of their triumphs in the form of temples and statues—like the Nereid Monument taken from Xanthos in Lycia to the British Museum; and the colossal lion from Cnidus in Asia Minor, which has found a like resting-place. Picture to yourselves this great lion, standing out on a headland two hundred feet in height; and, on its pedestal, raised forty feet into the clear air. So the Athenians commemorated the victory of Marathon in 394 B. C., who met the enemy of three hundred sail, no more than eight escaping.

Then, too, Athens had a Street of Tombs, lined with "monuments to all those Athenians who came by their death in battle by sea or land, except those who fought at Marathon, for these have their tombs upon the place itself as a memorial of their bravery." For the brave men who laid down their lives in that most memorable battle in the history of the world—the first victory of the West over the East—it was esteemed a mark of highest honor that their bodies lie where they fell. It was a like spirit that



impelled Theodore Roosevelt to declare that the body of his son should lie where he fell, fighting the latest—dare we hope the last?—great battle between civilization and greed of dominion. Is it possible to conceive any more fitting, any more truly commemorative memorial to one of our boys than the simple headstone, bearing his name, his service, and the date of his death, placed side by side with like memorials of his comrades of trench and battle, shaded by the trees with whose branches the sun paints ever-varying shadow-pictures on the white stone, and visited by multitudes of his countrymen?

It is the purpose of the War Department to maintain at least four American cemeteries in France, and in each case to create a field of honor. To have a son, a husband, a relative buried in one of those four cemeteries will be a high distinction.

In opposition to this plan of the Department the American Undertakers' Association has set its face like a flint, and has induced many relatives to have the bodies of their soldiers returned to this country. There is a potential scandal in every such removal.

### III

There is one Greek war-memorial that has become the admiration of the civilized world—the Winged Victory of Samothrace. We know little of the naval battle save the date (B. C. 306), and not much more of the Ægean islet near which the fight took place. With trumpet gone, without arms or head, far removed from the scene of triumph, the goddess to-day subjugates the hearts and minds of men the world around. The poise, the forward sweep of that glorious body, expresses the concentrated and irresistible force of a great cause. Not fighting, not prowess, not tactics, but the invincible power of right, is what this winged victory typifies. And so, with careful thought, the victory medal of the Allies was planned at the Peace Table in Paris—a full-faced, full-length figure of Victory with wings. In days to come, the American soldier, catching sight of that benign figure, worn in honor by Greek or Montenegrin, or Frenchman or Briton, will say to his former brother in arms: "I, too, went over the top in war, and by this emblem which we both wear, I am ready now to stand shoulder to shoulder with you to fight the battles of peace—the battles of right and order and law and fair-dealing."

We Americans are more akin to the Romans than to the Greeks in our expression of national ideals. The Greek strove for individuality and refinement; the Roman sought grandeur and dignity. Energy and power are the ideals expressed in their triumphal arches. Rome, small as was its circumference, had no fewer than forty arches of triumph. Doubtless we would have had even more memorial arches, only that they are very expensive, and our victors have not the resources that Titus and Constantine enjoyed—that of paying for his arch with the spoils of war. We did get spoils from Mexico, but we put the money into land in Washington for a home to shelter incapacitated men of the regular army. Since the boys began to return we have built innumerable triumphal arches in lath and plaster and muslin. Not the smallest part of their success was in their speedy exits. With the Romans the arch stood for a triumph in arms. We have erected an arch at Valley Forge, where the only triumph to be celebrated was the triumph of mind over matter, of faith and endurance over the grim array of the forces of nature—an American soldiery, hungry and ill-clad, but still conquering their surroundings by the spirit of an indomitable commander. The buildings of the

Valley Forge arch threw suitability to the winds; and even disregarded the matter of appropriateness in the choice of site, dropping their arch casually across the road. In order to produce a work of art every element should be considered, and among these elements none is more important than suitability of location. The relief experienced when the New York temporary arch disappeared from Madison Square was due to the general feeling that as located the arch was an obstruction—an impediment rather than an ornament.

The Washington Arch in New York with its park setting is recognized abroad as well as at home as one of the world's worthy memorials. There is no sense of conquest, no exaltation of Washington as a conqueror. Rather, the simple dignity and graceful serenity typifies a completed nation emerging from strife.

In the Arch of Triumph of the Star, the French have carried the arch to its conclusion as to location, architecture, and sculpture, making it a portion of the organic unity of Paris. Napoleon, in order to impress Europe with a just sense of his majesty and relentless power, ordered Paris to erect a monument to commemorate the victories of his armies. Paris gladly obeyed the command. Two of the foremost architects of their day were selected to carry out the work, which occupied thirty-two years. During this period one of the original architects withdrew, the other died and was succeeded by his pupil, who in turn was associated with two others, so that the arch represents the combined work of four architects. To the four architects must be added sixteen sculptors, who set themselves not so much to praise Napoleon as to express in majestic fashion the undying heroism of France. That arch, by reason of its focal site and the arrangement and distribution of the avenues leading to it, as well as because of its intrinsic grandeur, is a constituent portion of the City of Paris. And in like manner, any arch that we shall erect should be so tied into the city as to become an integral part of that city.

The cost of the entire French work was \$1,875,000. The Lincoln Memorial, the work of one architect, one sculptor, and one painter, has cost about \$2,600,000, exclusive of the enhancing landscape treatment. The location of the Lincoln Memorial in Washington was suggested by that of the Arch of Triumph in Paris. Both are terminals of the great central composition of the city. In Paris we have on the main axis the Palace of the Tuileries, in Washington the Capitol; there the gardens, here the Mall; there the cross-axis, with the Madeleine where we have the White House; the Obelisk where we have the Washington Monument; and the Chamber of Deputies where we have a still unoccupied site of the first order endowed with axial relations in the Central Washington composition. Finally, as the termination of the composition, Paris has the Arch and we have the Lincoln Memorial. The plan of Paris and the plan of Washington both are great plans in civic economy. Both were designed by Frenchmen, and both have the same end in view—the expression of unity, dignity, and grandeur in the making of the city.

In point of style, the Arch and the Memorial are in striking contrast. Lincoln had no conquests to celebrate, no battles to record. Instead of martial sculpture, we have Daniel French's statue of the clear-sighted, patient man; and, cut into the walls, both his Gettysburg speech of consecration, and also his Second Inaugural—his plea that the consequences of sin might be averted and that the peace of brotherhood might be restored. Nor is there a single note of war in Jules Guerin's two mural paintings, but rather the idea of emancipation from slavery, a condition as old as



the world itself; and of the joy that reconciliation brings to members of one family after estrangement; and of the blessings of peace in fostering the arts and sciences. Indeed Henry Bacon's entire work as an architect has been to make the Lincoln Memorial a true expression of the simplicity, dignity, and moral grandeur of Lincoln.

When Napoleon said that he would make Paris the capital of the world—that is, the ruler of taste—he proclaimed his greatest success. Due to the artists who drew their inspiration from his victories, the French classical tradition was carried throughout Europe. Even England, having withstood the power of Napoleon's armies, succumbed to the dominion of his artists. Through the French architects the world has learned to speak one and the same language in commemorative monuments and in those structures that may justly be called monumental. To-day our young men are trained in the great Paris school of architecture; our sculptors and painters seek instruction and stimulating companionship in the studios of Paris. Then, if they are seriously ambitious to place themselves among the immortals, they win their way to the American Academy in Rome, where they are brought face to face with works that have lived throughout the centuries and never were more alive than they are to-day.

Thomas Jefferson, a contemporary ruler with the great Napoleon, sought to set up here in America standards of taste in architecture and sculpture. In public architecture he would have us derive neither from the classicism regnant in Paris, nor yet from the Palladian style with which the uninspired followers of Sir Christopher Wren were decorating London buildings. Rather he would send our builders back to the finest examples of Greek and Roman architecture for their standards of simplicity, proportion, and elegance. He understood—none better—the difference between body and spirit. He did not seek the reproduction of Greek and Roman buildings, thereby putting new wine into old bottles; but he did insist that our public buildings should be planned for the uses they were intended to serve, and also that they should be a joy and a delight to the eye, by reason of location, landscape-setting, harmonious proportions and worthy materials. He sought to produce in the American mind those emotions of patriotism, love of country, desire for the things of the spirit, which to his mind were the real satisfactions of life. Often he cast pearls to a heedless generation, and especially to the generations succeeding; but may not we approach our national and commemorative art in his spirit, and with an intelligence such as his—enriched by travel and meditation, and by a disposition to enjoy rather than to criticise?

#### IV

To celebrate his victories over the Dacians, the Emperor Trajan set up a marble Doric column, up the surface of which winds a spiral band of sculpture, depicting scenes from his triumphs; and the amiable Marcus Aurelius followed his example. Each emperor had his own statue placed upon the summit of his column, a position that ultimately proved precarious to those royal pagans; for, after standing on their lofty summits for some fifteen centuries, they were forced at last to give place respectively to St. Peter and St. Paul, who have now some three hundred years to their credit.

In 1805 Napoleon commanded a copy of Trajan's Column set up in the Place Vendôme, in Paris, the sculpture in bronze, to depict his victories in Germany and Austria. With us the shaft has taken many forms. In the case of the Bunker Hill and the Washington Monuments, the

obelisk was used. There are people who are so set against the idea of an obelisk which is not a monolith that they will see no beauty in the Washington Monument. It is well to let such people take their theories off into a corner, as a dog takes a bone. The good Washingtonian lives happily within the sphere of influence exerted by the dominating shaft, which takes color and form from the atmosphere, changing from hour to hour, but always standing strong, serene; planted on the earth yet towering far above it, like the benignant Father of his Country, to whose prescience and taste we owe the fact that our national capital may, in another century, come to stand among the greatest capitals of the world.

Brooklyn has used the column for its monument to the Prisonship Martyrs of the Revolution; and the Lake States have set up, at Put-in-Bay, a memorial of Perry's Victory on Lake Erie, in the form of a great column, rising almost from the surface of the water, and bearing a burning tripod as a signal for the multitude of ships using that waterway. In setting and design the Battle Monument at West Point leaves nothing to be desired.

In all three instances the beholder is moved by the happy way in which nature and art combine to stir patriotic pulses and excite feelings of satisfaction that our heroes have been beautifully and nobly honored.

#### V

Ever since 1853, when Clark Mills mounted Andrew Jackson upon a prancing steed, and made him doff his hat to the White House, the equestrian statue<sup>1</sup> has been the favorite memorial for martial heroes, until to-day Washington can boast of more bronze men on horseback than can any other city in the world—if, indeed, it is a matter for boastfulness! Among American equestrian statues are some that may be classed as works of art, and one which seems destined to be accounted so surpassingly good as to take place with the two acknowledged pre-eminent equestrian statues of the world—the Gattamelata at Padua and the Colleoni at Venice.<sup>2</sup> The Sherman statue at the entrance of

<sup>1</sup> The first equestrian statue set up in this country was one of George III, made in England, of lead, gilded. It was erected at the foot of Broadway, New York, in 1770. Six years later it furnished 42,088 balls for Continental muskets. In 1803, an equestrian statue of Charles IV of Spain was executed in the City of Mexico, and was cast in one piece in that city. The first equestrian statue executed in the United States is the Andrew Jackson, by Clark Mills, unveiled in Lafayette Square, Washington, January 8, 1853, on the thirty-eighth anniversary of the battle of New Orleans. Henry K. Brown's statue of Washington, in Union Square, New York City, was unveiled July 4, 1856. This is one of the few good equestrian statues of Washington in the United States.

<sup>2</sup> During the period of the Renaissance in Italy, three great equestrian statues of military heroes were fashioned. The first of these was set up at Padua in 1453, in memory of the famous condottiere, Erasmo de Narni, called Gattamelata. The sculptor was Donatello, who achieved one of the great equestrian statues of the world. It is "powerful and majestic in its very repose; there is no striving for dramatic effect, no exaggerated muscular action, but the whole is dominated by the strong, energetic head, which is modelled with searching realism." The second great statue is the Colleoni in Venice; the third was Leonardo da Vinci's statue of Francesco Sforza, which never got beyond the model stage.

The monument to General Colleoni stands in the centre of the Campo Santi Giovanni e Paolo, at Venice. It was modelled by Andrea Verrocchio, a pupil of Donatello, and was cast in bronze by Alessandro Leopardi, who designed the perfect pedestal, and probably had a part in the statue itself. It was unveiled March 12, 1496. Professor Middleton says: "This is, perhaps, the noblest equestrian statue in the world, being in some respects superior to the antique bronze of Marcus Aurelius in Rome and to that of the Gatta-Melata at Padua, by Donatello. The horse is designed with wonderful nobility and spirit, and the easy pose of the great General, combining perfect balance with absolute ease and security, is a model of sculpturesque ability."



Central Park, New York, makes use of man and animal to portray the steady, determined, resistless march of armies bent only on the conquest of peace. The figure of Victory is the harbinger not of cruelty and oppression but of reunion and good will. As a portrait the work is excellent, but its real value lies in the fact that it arouses in the spectator strong patriotic emotions.

## VI

Now as to that perplexing subject of the memorial building—community centre, auditorium, or art gallery. The question is not whether it is useful, but whether it can be made to arouse in coming generations feelings of honor, respect, and gratitude for the lives sacrificed on the altar of country. Remember, those boys were great idealists, as every one knows who mingled with them in camp and on shipboard. In the trenches ideals were often concealed under the helmet, and showed themselves only in the stiffening of the knees that came at the end of the first twenty yards on the Hun side of the top. Can the building be made to express their service and sacrifice? If so, by all means build it. Once it has been done in this country. The Memorial Hall that dominates Harvard University is conceived in a spirit not military but peaceful. Dedicated by a great prayer and a poem in which the character of Lincoln is enshrined, bearing the names of those who died in battle to save the Union, adorned with windows depicting the world's noblest characters, carrying on its walls the portraits of men and women whose service to learning and the community makes them worthy of enduring remembrance, Memorial Hall rises high above its utilitarian uses—even above its bad architecture—and proclaims the supreme virtue of valor and sacrifice for one's country.

So the Pantheon in Rome and the Invalides in Paris are great memorials, because of the emotions they inspire. Therefore, it is not impossible to make a memorial of a building; but it has been done rarely.

## VII

In the discussion thus far, emphasis has been placed rather on the effect of the memorial than on its form. The question then arises, How can such effects be created, such high emotions be inspired? Unfortunately, there is no straight and certain road to the goal. It is not sufficient to say, Go to an artist and put yourself in his hands. We have but to look back on the discarded or dishonored works of the past to be modest as to present achievements or even possibilities. There is no beaten path which leads directly to the artist who shall surely express emotions comparable with the courageous facing of ignominious death, as in MacMonnies' Nathan Hale; or the gracious dignity and controlled power of this nation, as in French's colossal statue of the republic; or the leadership of a despised race fighting for freedom, as in Saint-Gaudens' Shaw Memorial.

Yet there are some practical considerations that will be helpful. An artist must be capable of thinking greatly be-

fore he can express himself greatly. He may not be able to put his thought into words, but he must be able to express himself in his chosen medium—architecture, sculpture, painting. Further, he must be able to express his own emotions in such manner as shall arouse like emotions in the beholder of his work. He must have the technical ability to deliver his message clearly, distinctly, powerfully. He must have something to say.

What shall the artist say to-day? We went into this war with high ideals. Have we realized them? Have we even formulated them? Shall we be in haste to undertake great works while the world is still in a chaotic mental state; before the ship of civilization rights itself and rides on an even keel after the greatest of storms?

Is the last word to be one of helpless pessimism? By no means. Nothing can check the passion for the expression of national, patriotic feeling in monumental form. We shall have plenty of monuments, such as they are. But, now that we have an opportunity to give thought and consideration to the matter, let us hasten slowly. Let us first find out for ourselves what really constitutes an enduring memorial, and then strive to attain for our own community an ideal creation, a real work of art; and let that creation breathe the spirit not of carnage but of peace.

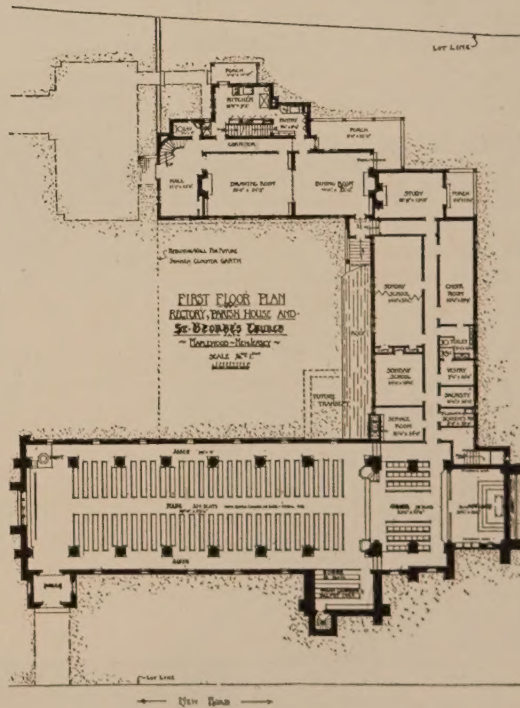
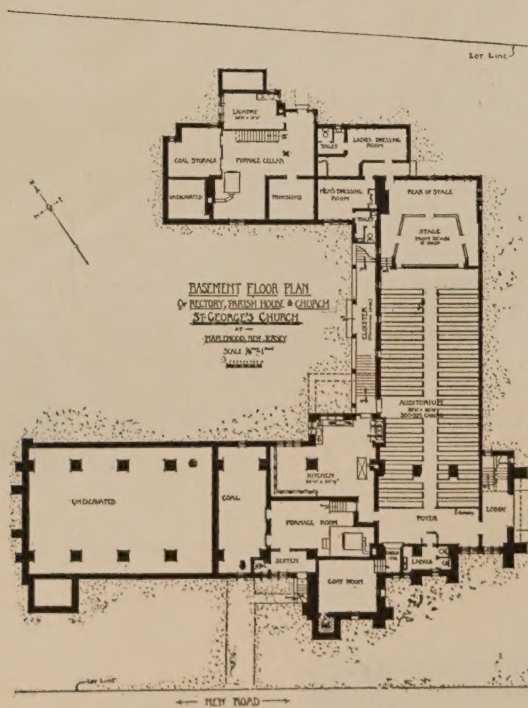
Americans have regarded art as a luxury smacking of effeminacy. To-day there are people who would not enter an art gallery, not only because they have no desire to see pictures and statues but also because they fear the ridicule of their fellow-men. Art and music and poetry they leave to the women of the family. They want serious things—like golf and poker, shooting and shows. They want to talk about business, and their own automobiles.

Unless the artist shall be clear in his conception, noble in his thought, and skilful in his expression, the memorial will fail lastingly to count. Unless the community shall be patriotic at heart, appreciative of excellence in the work, the artist will labor in vain. That was a true saying of John La Farge: "You do not judge a work of art; a work of art judges you."

A work of art is the graphic expression of the emotions of the artist in such manner as to call forth similar emotions in the beholder. But suppose the individual or the community is immune to emotions, or is carried away by gusts of emotion. Suppose the ideals that our boys carried overseas have been put back in the closet until some great crisis shall again bring them into use. Suppose the idea prevails that we can buy, as we would buy diamonds or pearls, a memorial worthy of those who for our sakes laid down their lives on the battle-fields of France and Belgium, or amid the snows of Russia. Now, as a matter of conscience and of justice toward the dead, can we so slight them? Shall we not rather give time and thought and serious consideration to make our war memorials real works of art—works that shall express our deep-felt convictions, our appreciation of sacrifice made, and our high determination to work for the protection and advancement of that civilization for which they fought? Can we not put minds and hearts, as well as our money, into our war memorials?







DESIGN FOR RECTORY, PARISH HOUSE, AND ST. GEORGE'S CHURCH, MAPLEWOOD, N. J. Charles W. Short, Jr., Architect.



## Editorial and Other Comment

### *A Brand from the Burning*

WE extend our most sincere sympathy to the architects and artists who suffered loss in the surprising fire that destroyed the galleries of the Fine Arts Building on Fifty-seventh Street, where the exhibition of the Architectural League was all ready to be opened on January 31. The exhibition was to have been one of unusual interest and distinction. Architects from all over the country had sent work to be shown. From an appreciative editorial in the *New York Times* we quote the following, as it gives a very good idea of how attractively the exhibition had been planned, and expresses so well our own feeling regarding the zeal and efficiency of the men who had so generously given their time and services and skill toward making the exhibition what it was hoped would prove one of the most notable in the history of the league.

#### BEAUTY BURNED AWAY

"The Architectural League had planned and carried through the most beautiful and logical exhibition of architecture and the allied arts ever held in this country. Men were working at full speed over the final details on Thursday making ready for the reception to be held yesterday, but before the exhibition was opened the result of many weeks of labor of hand and brain was in ashes. Comparatively few people had seen the exhibits in the Fine Arts Building before the catastrophe, but those who had been admitted will not forget the dignity of their appearance at the eleventh hour. The art of exhibition had been practised with a high degree of intelligence. The Vanderbilt Gallery was divided into small alcove rooms and each of these was designed by an architect and decorated and furnished under his supervision, and was so placed in the gallery as to preserve its aspect of spaciousness; the sculpture, with the exception of the large central groups, was placed in recesses and seen against a background of decorative paintings or fabrics, so that beauty of color contributed to the general effect. The skeleton of the old galleries was reconstructed in harmony with the architectural plan of the exhibition. The whole was eloquent of a generous spirit of collaboration and of the immense industry and single-mindedness of the workers in making the exhibition successful."

There was never a time when such an exhibition could be made of more public service, for there has never been a time when there is such a crying need for building, for the services of the trained architect and for the intelligent and tasteful uses of the allied arts.

For some years the tendency of the league exhibitions has been, it has seemed to us, toward a rather overaccentuation of the work of the interior decorator and the manufacturer of materials. The architectural exhibits have been more or less submerged. There were perhaps good business reasons for making this particular appeal on the house furnishing side, for it no doubt brought many visitors to the show who had little appreciation and, perhaps, less interest in purely architectural matters. The whole tendency of the present in the arts seems toward the cultivation of a

wider interest in the decorative arts and both the Metropolitan Museum and the Museum of Natural History have done splendid work in helping extend this interest in creating a better public taste.

In spite of the losses due to the fire the league announces that it hopes to have an exhibition, and no doubt architects everywhere will respond to the request for new material to take the places of what has been destroyed. No one interested at all in the arts, who has followed the course of various exhibitions in the Fine Arts Building, will think of the loss without at the same time a hope that perhaps at last the long and crying need for an adequate fireproof building large enough to house the various art societies may come from this disaster. It has been for many years a shameful reflection upon New York's attitude toward the arts that there was nowhere an adequate place for a comprehensive and really important exhibition of American art. The academy shows have been woefully limited by inadequate wall space, and much of the criticism of that dignified and well-meaning institution has been due entirely to this lack of space and not to any lack of a generous attitude toward the younger men.

We are informed that plans have already been formed by the Architectural League for the construction of a building, and we sincerely hope that the project will materialize. There is a fine opportunity here for some of our rich men interested in the arts to establish enduring monuments and to perform a great public service. We had the Vanderbilt Gallery in the Fine Arts Building, why may we not have a series of galleries in a great new building endowed and named after their donors? There is no reason why a suitable building should not be constructed that will house all the various art societies, provide adequate exhibition galleries for all purposes, and with its schools and exhibitions be made to support itself.

The prizes of the Architectural League had been awarded before the fire and include the following:

Medal of Honor for architecture to Delano & Aldrich; for painting to Arthur Crisp. For landscape architecture, to Vitale Brinckerhoff & Geiffert; the Helen Barnett Prize for sculpture, to Laurence Mandarelli; the Avery Prize to Karl H. Gruppe.

### *A Fine Achievement*

THERE were a number of admirable things done in a large way by our architects during the war, and some of the housing developments were not only great practical successes but were artistic successes as well. Many of the houses built in large numbers were admirably designed and have set a standard that will be of use all over the country.

Nowhere was the demand for building more urgent or the problems greater and more difficult than in the city of Washington, and here under the direction of Mr. Waddy B. Wood were constructed buildings that covered in all the great floor space of fifty-six acres. Among the buildings were the Food Administration buildings, the Fuel Administration buildings, the Council of National Defense, War In-



dustries Board, War Trade building, Aviation building, Medical Corps building, two large buildings for the Ordnance Department, and the numerous buildings for the Industrial Housing Corporation.

This work was done with an office force averaging six men and one stenographer, in about two and one-half years and amounted to over \$7,500,000. The first building was for Mr. Hoover, for which he was apparently willing to pay the normal commissions, but which the architect declined to charge a cent for, executing the contract without any profit. Mr. Wood also offered to do all the other buildings for fifty cents up to the normal overhead. In every case the government, which decided the fees, paid under the normal overhead for all expenses and personal compensation. In no case did any of the work cost the government over 2 per cent gross, and in the work done for the Housing Corporation, taking what was designed and built and what was not built, the total fee including the architect's profit and all expenses was six-tenths of one per cent. In addition to the above work that was completed working drawings were made for the Housing Corporation for \$5,313,000 worth of work that was not built, besides preliminaries for other projects that would amount to several millions more. In every instance this work was completed inside the time allowed and the money appropriated, with the exception of the Housing, and in the case of the Trade Board \$100,000 was saved on the appropriation.

There is no doubt that all of this work was done under the most difficult conditions with pressure from all sides, with many conflicting judgments. The result is a worthy manifestation of what can be achieved under the direction of conscientious and thoroughly trained architects, and reflects honor upon the profession in general. They were not only ready to give their services but gave them freely and effectively whenever they were called upon.

### *Co-operative Apartments*

THERE are thousands of families, many thousand individuals, living in makeshift apartments in New York, in every city and town in the country. They are paying exorbitant rents, getting less and less service in return for their money, and wondering when the house is going to be sold and another landlord pirate come in for his pound of flesh. There is a solution of the problem in well-organized co-operation, and by well-organized we mean not only from a merely business point of view but from a view of filling a house with the right sort of co-operators. Co-operation on a dollar basis, any one coming in who can pay the price, is no better than present arrangements where the high price of an apartment has nothing whatever to do with the character and selection of tenants. There are so few places for the relatively poor but respectable professional man and his kind.

A properly qualified organizer of co-operative apartments who started out with the idea of building places that could be looked upon as permanent homes, where every tenant could be assured of the respectability of his neighbors, and the peace and quiet sought by the decent tired

business man at the end of his day, would be besieged by numbers. Small apartments are wanted at modest prices. They can be built and made to yield a handsome and assured income.

### *For a Library of Civic Art*

BY a plan recently agreed upon, New York has taken a step toward a nucleus for a library of civic art as the result of an agreement made recently by the Municipal Art Commission and the Municipal Reference Library. Finding that there was some duplication and overlapping in the work being carried on in the Art Commission's library and in the Municipal Reference Library, Mr. Henry Rutgers Marshall, Assistant Secretary of the Commission, arranged with Mr. Dorsey W. Hyde, Jr., Municipal Reference Librarian, for the latter to assume complete responsibility for the art commission's collection, which was duly constituted a branch of the Municipal Reference Library, to be devoted to civic art.

In accordance with this plan a civic art division of the Municipal Reference Library has been created, and the work of consolidating the two collections is now in progress. A classification scheme is being prepared, and some progress has been made in the compilation of an index. Index cards will be duplicated in the index of the Municipal Reference Library, 512 Municipal Building, in accordance with the plan already followed for the books of the library's Public Health Division. Suggestions from New York architects as to how the new library can be made of wider usefulness will be gladly received.

### *The American Federation of Arts*

1. Sends out travelling exhibitions selected by experts. 2. Circulates illustrated lectures by authoritative writers. 3. Publishes a monthly illustrated magazine (*The American Magazine of Art*). 4. Issues a yearly Art Directory (*The American Art Manual*). 5. Conducts a campaign for better War Memorials. 6. Holds Annual Conventions. 7. Serves as a National Art Clearing House. 8. Supplies Art information, study courses, etc. 9. Aids in establishing Art Commissions. 10. Strives for better Art legislation. 11. Works for better Art education. 12. Fights for American Industrial Art.

Finally—through these and other means *correlates all the art interests* of the United States.

It is a live-wire organization, hard at work and successful, but not happy until you are a member.

*Membership.*—Associate Membership, \$3. Active Membership, \$10. Contributing Membership, \$100. Life Membership—one payment of \$500. Perpetual Membership (which may be bequeathed), \$1,000.

*The American Magazine of Art* is sent to all members. Active, Contributing, Life, and Perpetual members may vote at the Annual Meetings.

Separate subscription to *The American Magazine of Art*, without membership in the American Federation of Arts, is \$2.50.







THE ENTRANCE DOORWAY, MOUNT VERNON SEMINARY, WASHINGTON, D. C.

Wesley S. Bessell, Architect.









ENTRANCE FAÇADE, MOUNT VERNON SEMINARY, WASHINGTON, D. C.

Wesley S. Bessell, Architect.









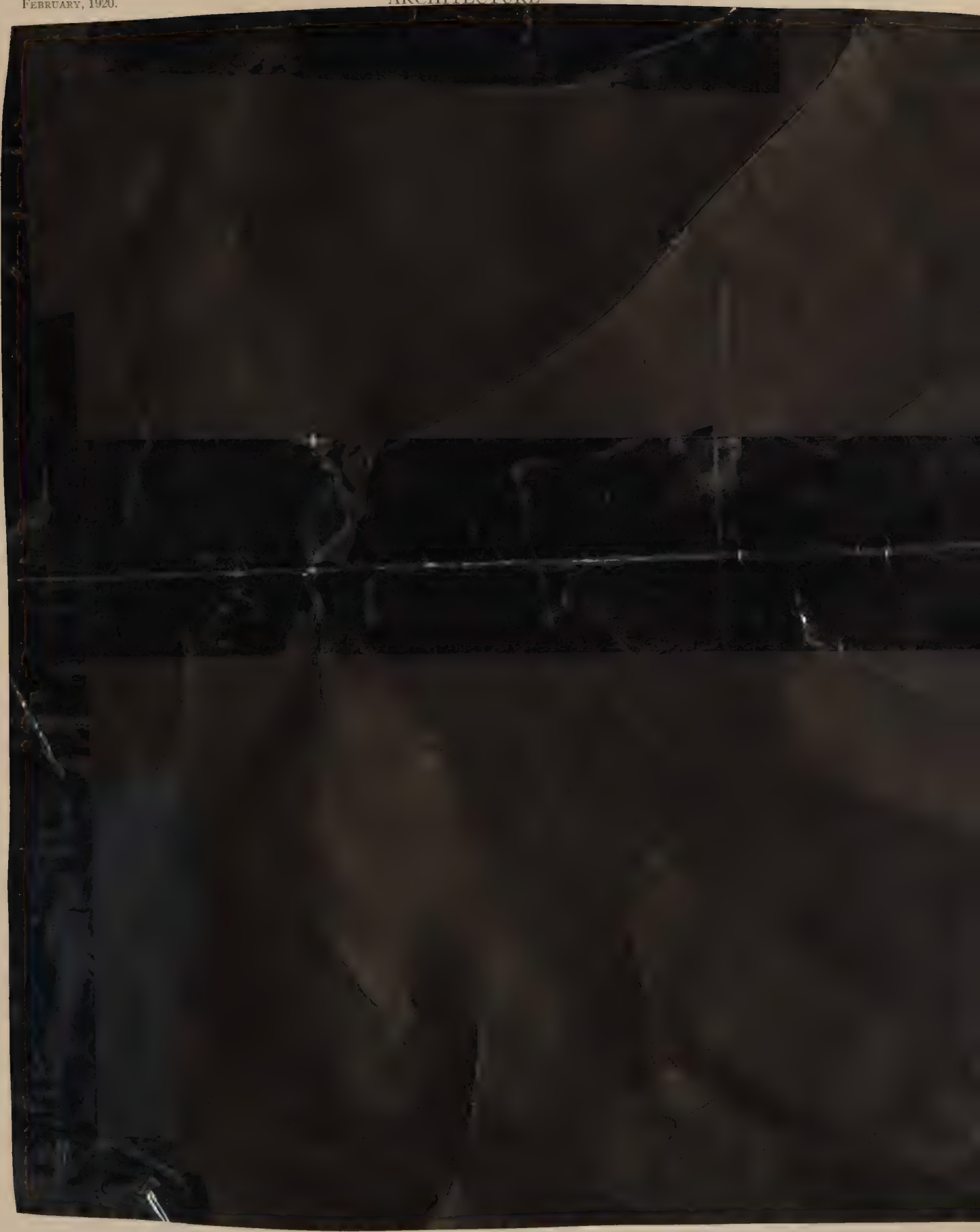
NORTH WING, MOUNT VERNON SEMINARY, WASHINGTON, D. C.

Wesley S. Bessell, Architect.

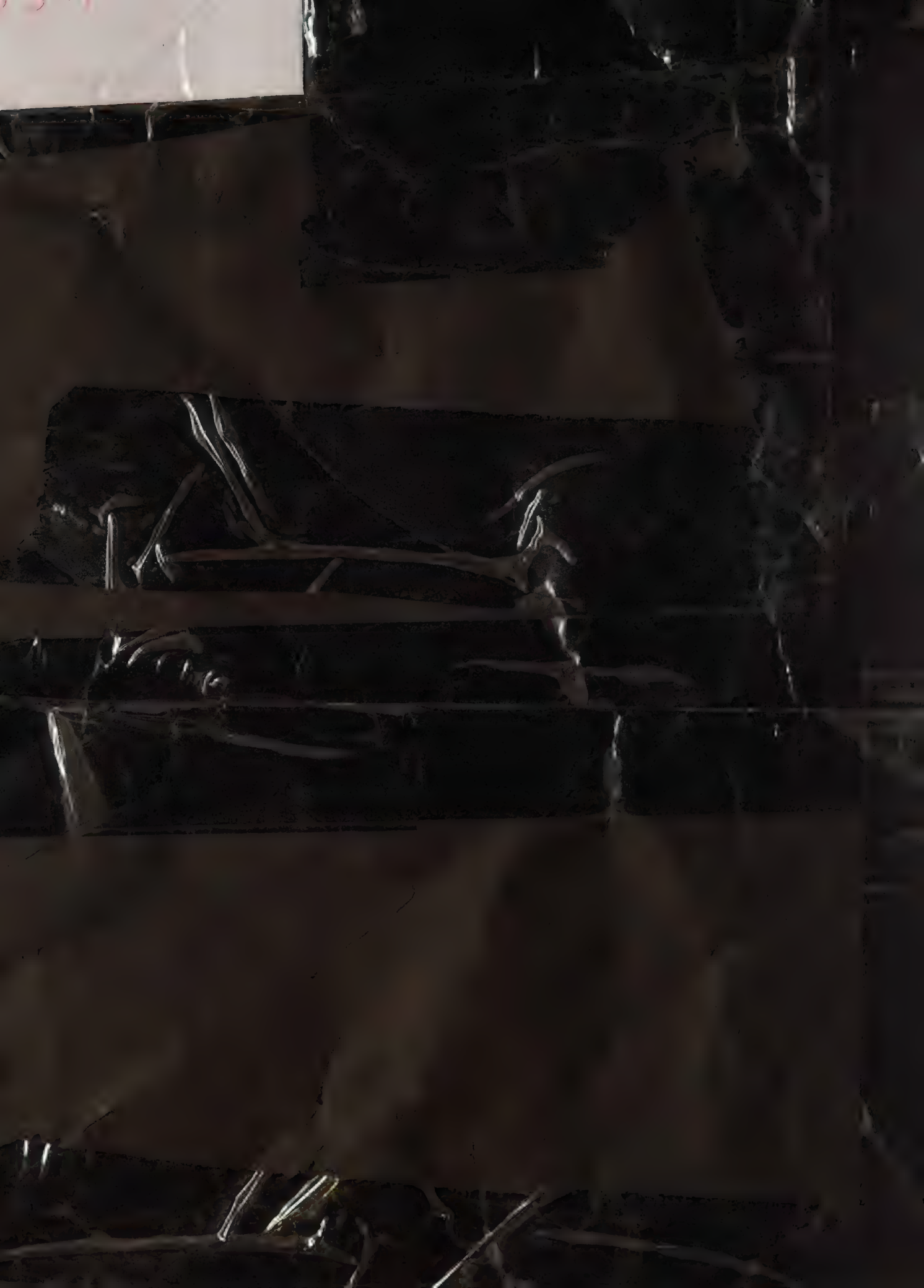














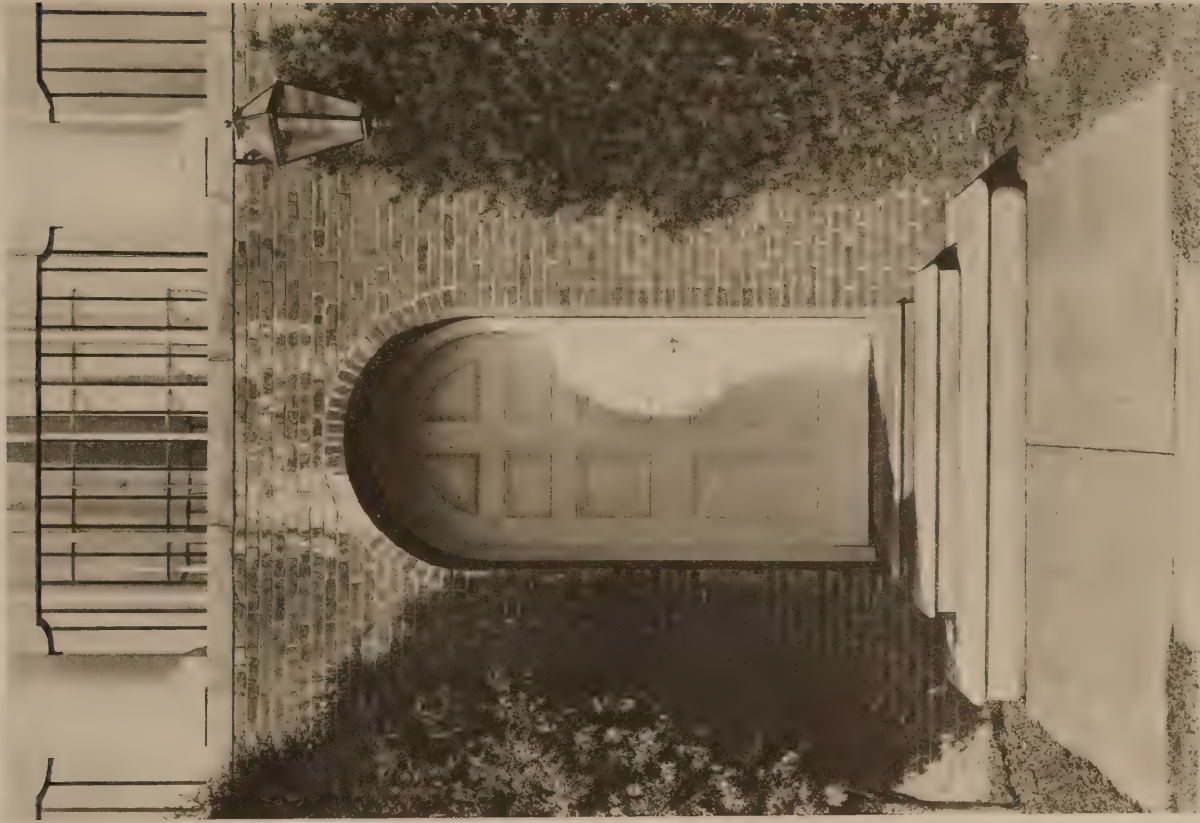
FEBRUARY, 1920.



DOOR TO SCHOOLROOM.

MOUNT VERNON SEMINARY, WASHINGTON, D. C

Wesley S. Bessell, Architect.



DOOR IN QUADRANGLE.









THE GREAT HALL FIREPLACE, MOUNT VERNON SEMINARY, WASHINGTON, D. C.

Wesley S. Bessell, Architect.

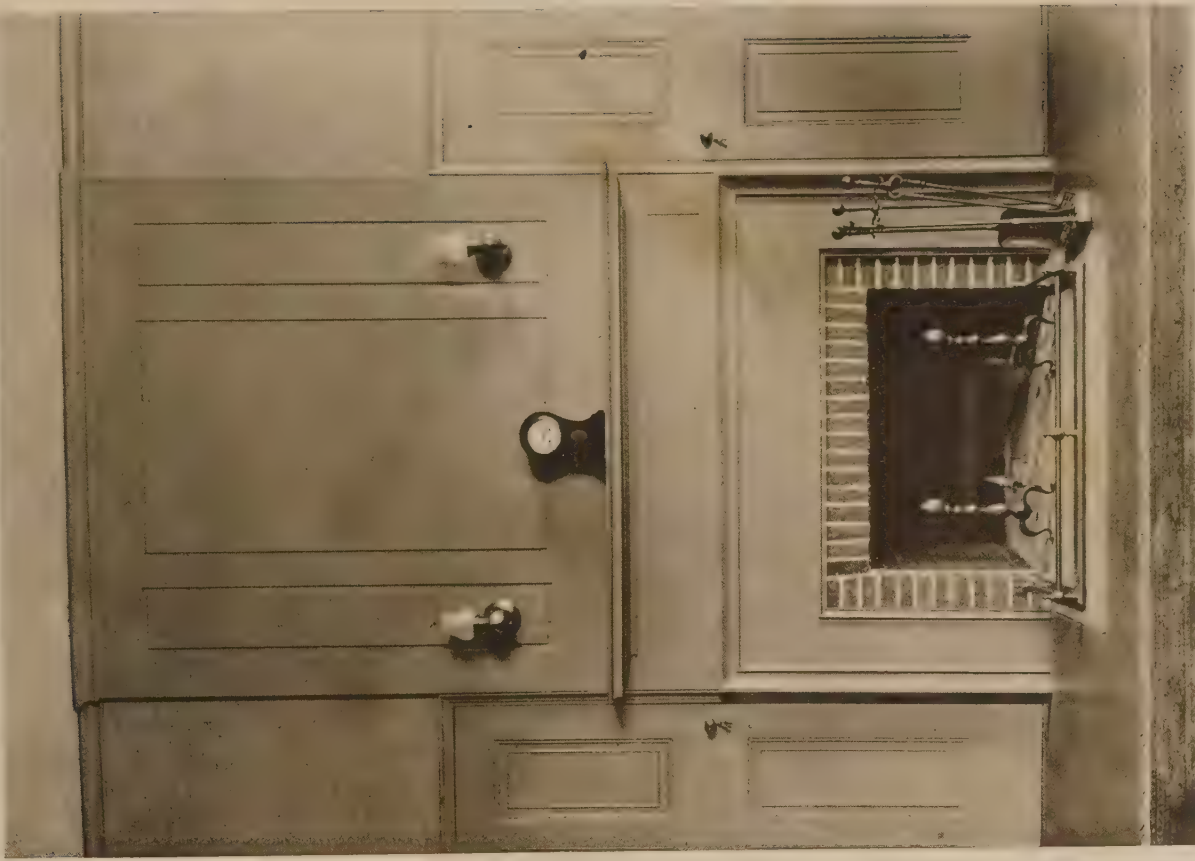




FEBRUARY, 1920.



A RECEPTION-ROOM MANTEL.



FIREPLACE, HEADMISTRESS'S OFFICE.

Wesley S. Bessell, Architect.

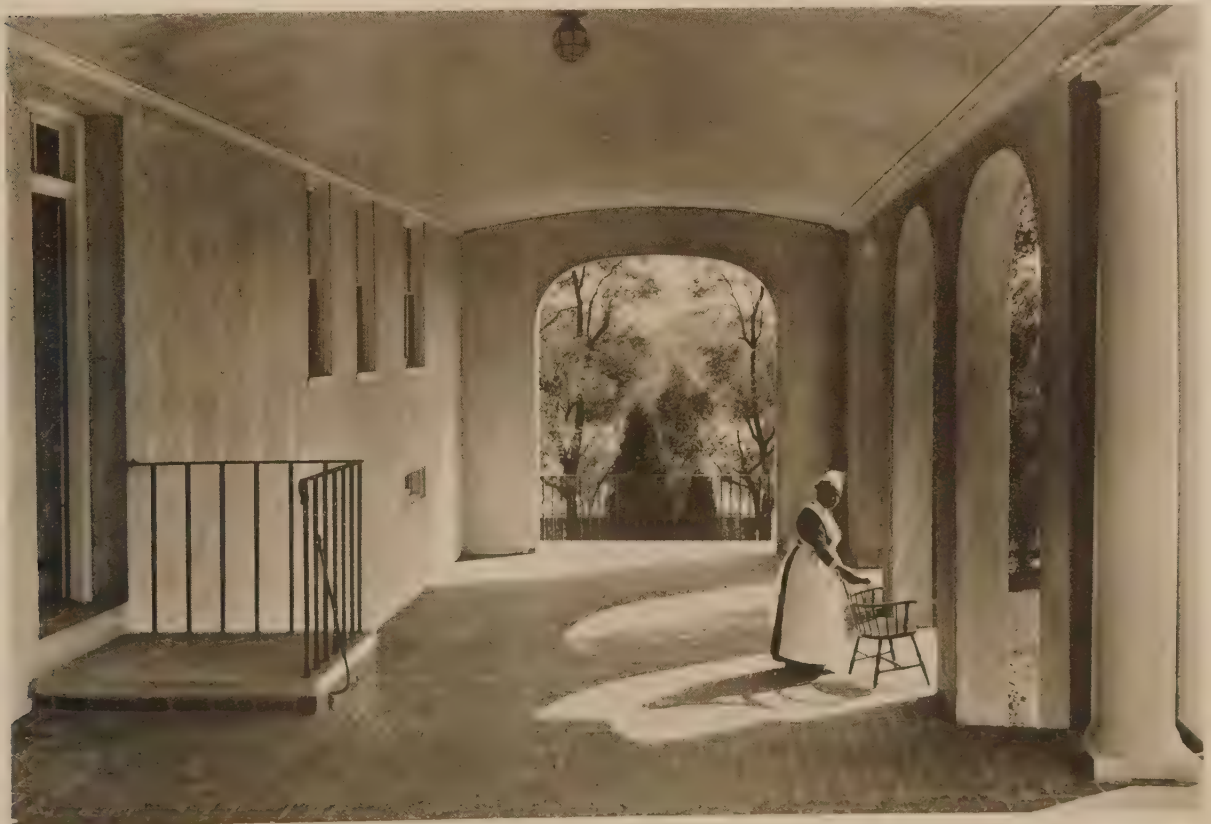
MOUNT VERNON SEMINARY, WASHINGTON, D. C.







MAIN STAIRWAY.



VIEW IN CLOISTER.

MOUNT VERNON SEMINARY, WASHINGTON, D. C.

Wesley S. Bessell, Architect.













RESIDENCE, ISAAC T. MANN, WASHINGTON, D. C.

George Oakley Totten, Jr., Architect.







LIVING-HALL, RESIDENCE, ISAAC T. MANN, WASHINGTON, D. C.

George Oakley Totten, Jr., Architect.







SUN-ROOM.



ENTRANCE-HALL.

RESIDENCE, ISAAC T. MANN, WASHINGTON, D. C.

George Oakley Totten, Jr., Architect.







SIGMA PHI PLACE, HAMILTON COLLEGE, CLINTON, N. Y.

Clement R. Newkirk, Architect.







ENTRANCE DETAIL, SIGMA PHI PLACE, HAMILTON COLLEGE, CLINTON, N. Y.

Clement R. Newkirk, Architect.







DETAIL.

SIGMA PHI PLACE, HAMILTON COLLEGE, CLINTON, N. Y.



DETAIL.

Clement R. Newkirk, Architect.







MANTEL AND FIREPLACE IN "COMMON" ROOM.



"COMMON" ROOM.

SIGMA PHI PLACE, HAMILTON COLLEGE, CLINTON, N. Y.

Clement R. Newkirk, Architect.

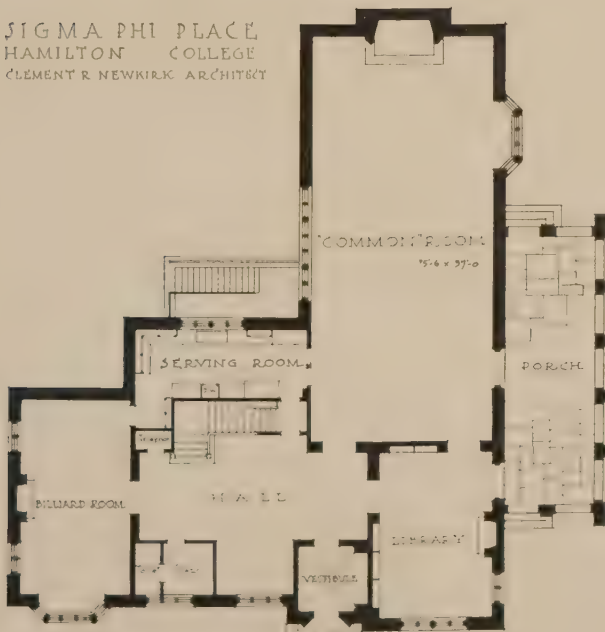






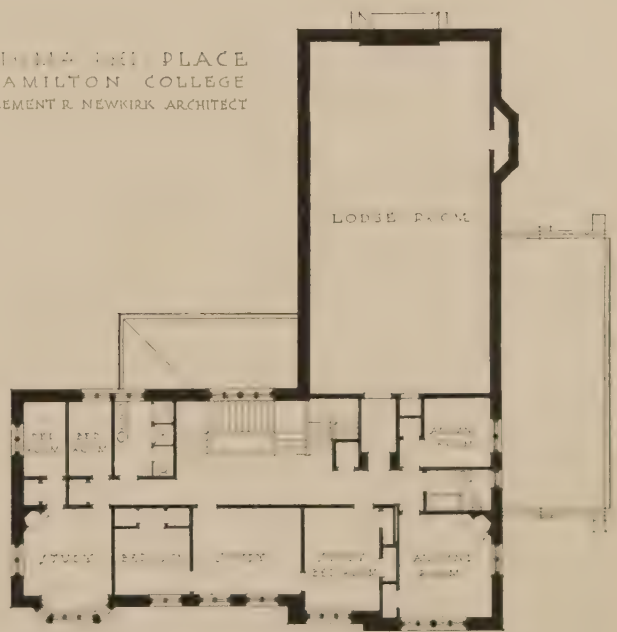
BILLIARD-ROOM.

SIGMA PHI PLACE  
HAMILTON COLLEGE  
CLEMENT R. NEWKIRK ARCHTCT



FIRST FLOOR PLAN

SIGMA PHI PLACE  
HAMILTON COLLEGE  
CLEMENT R. NEWKIRK ARCHTCT



SECOND FLOOR PLAN



# What Artificial Light Means to the Modern Structure

*By H. Vandervoort Walsh*

IN the words of one of our popular songs, "We never miss the sunshine until the sun is set. We never miss the laughter until the eyes are wet," we find the same strain of human nature with which we look upon the marvellous development of lighting in our modern building. We have no thrills any more when we are dazzled in the brilliant lights of a hotel lobby, nor are we charmed by the soft mysterious glow in the reading-room of some home where bowls of light pour their indirect illumination around us.

Suppose that to-morrow night we should suddenly revert back to one hundred years ago with our lighting systems of sperm-oil lamps and primitive candles. We would then appreciate how dependent the modern structure is upon its lighting. The gloom of darkness which the war required would be daylight in comparison. The hottest radiator could not dispel the mental chill upon the air. Then, think of the cost! One hundred years ago to burn sperm-oil you spent \$2.50 for every 1,000 candle-hours. When you realize that to-day we use nearly eighteen times as much light in the home as was used then, and that we pay about 10 cents per 1,000 candle-hours or about one-twenty-fifth of what it used to cost, the picture becomes even more vivid. Indeed, you cannot get away from the fact that artificial light is the very life-blood of the modern structure.

As progress in lighting increased there were two lines which it followed, and each of these lines has produced a force for illumination which has supplanted all others. These two lines of development were caused by the fact that we can secure light by two physical means: first, by the flame where chemical action took place, and, secondly, by the incandescent object where no chemical action occurred but some filament is heated to such a high temperature that it glows. Gas has become the force behind the flame method of illumination, but even this has slipped half-way over to the incandescent system in the Welsbach mantle. Electricity has become the force behind the incandescent system.

To-day we have two classes of illuminating gas: one for the isolated house and the other for the cities. Acetylene gas and gasoline gas are extensively used in homes which are separated from any central supply, and have produced a lighting system which brings comfort and cheer into the lonely farmhouse. Coal gas and water gas are the two great sources of flame illumination in the cities, and before the electric light was developed in usefulness held the supreme position. In certain localities where natural gas can be secured at a very cheap rate it still holds its own.

The general tendency in gas-light development has been to reproduce as far as possible the incandescent system of electric lighting. The use of the old-fashioned gas flame is not only out of date but is highly uneconomical. One of the first principles of good gas lighting is the use of the very best gas mantles and maintaining them in good condition. The mantles are caused to glow by heat produced by the burning gas, which is designed to combust like a Bunsen burner. The comparatively white light produced by this mantle should be hidden by properly designed globes to secure the best effects.

The employment by the gas companies of highly specialized men has led to very remarkable developments of this system of lighting, and although living in a city where electricity is the prevailing form of illumination, no architect should allow himself to develop the scorn that many people have for gas light, which is largely due to ignorance of the best methods. In many localities gas lighting is as much a blessing to the community as electricity is in others. There are many places where the electric service is irregular and liable to breakdown, and the use of gas is quite necessary as a stable standby. Double outlet fixtures should be provided for such emergency. Where there is good pressure, uniformity of quality, and proper purification of gas, and the electric service develops variations of more than 5 per cent from the maximum, gas lighting is much to be preferred.

One of the best aids to the architect for securing information concerning gas lighting is through the National Commercial Gas Association. They have developed a standard system and table for piping a house for gas which is founded on a carefully studied formula for the flow of gas through pipes. Unlike other methods of measuring gas, this table is based upon the quantity of gas delivered through a pipe in terms of  $\frac{3}{8}$ -inch outlets instead of cubic feet. It is found by comparison that  $\frac{3}{8}$ -inch outlets consume 10 cubic feet of gas per hour. The aim of this table for laying out gas-pipes is to have the loss in pressure not to exceed  $\frac{1}{10}$ -inch water pressure in 30 feet of length of piping, and to have the size of the pipe increase from the extremity of the system toward the meter, according as each section has an increased number of outlets to supply.

Of course the developments in electric lighting have made such great strides that it has really been this form of lighting which has made possible our enormous commercial structures, and it is to this system that the architect most naturally turns his attention. Here he has at his disposal a great variety of lights, such as the Cooper-Hewitt lamp, the enclosed and the open arc-lamp, the incandescent lamps, like the tantalum and the tungsten and Nernst; and the Mazda lamp filled with nitrogen. All of these have their special places and adaptable qualities. The easy switch control of any system makes possible almost any effect.

At the same time the architect has at his disposal the information of the finest specialists in the country. He need not worry much if his specifications require that the electric wiring in the building follow the National Electric Code of the National Board of Fire Underwriters. Nor does he need to wait long for information if he calls upon the Society for Electrical Development. With two such excellent sources of information handy, there is hardly any reason why the architect of to-day should have much difficulty in solving his electric-light problems.

In attacking this subject with each new building, the architect should constantly keep in mind the economical value of good lighting and what it means to the modern building. In the business building it makes possible great powers of advertisement. Flood-lights played upon the structure bring out the architectural beauties of the structure on the blackest nights. Good lighting on the inside

decreases the fatigue of employees and therefore their liabilities to make mistakes. It hardly is necessary to tell of the advantages it has in the showrooms to make sales or in the windows to attract trade. In the home, club, or hotel good lighting is as much a part of the decorative scheme as the walls themselves. It gives good comfort and cheer. It is better to read by and live in.

The proper study of the problem requires five distinct steps: (1) To determine the kind of lighting system to be employed; (2) to locate all outlets and settle upon the arrangement of wiring; (3) to select the kind of lamps to be used; (4) to decide upon the lighting method to be used, and (5) to make a selection of the fixtures and the glassware to be used on them. Each building has its own difficulties which must be surmounted, but on the whole there are some very good general rules to be followed.

The general consideration of what system of lighting will be used has already been discussed; as to the location of outlets, the architect must be influenced by the class of structure he is dealing with, and also by the method of lighting he is using. For this reason he should have a clear idea of these general methods and what they mean.

There are three methods of lighting a room. The simplest and the most efficient is the direct lighting. It was the first to be used and is the least affected by the color of the walls and the ceilings. A more recently developed method is the indirect lighting. Here the source of light is hidden from view by opaque reflectors, and the light which is utilized is first thrown to the ceiling and walls and then reflected onto the objects in the room to be illuminated. The efficiency of this method of lighting is lower than the direct method, but there is a restfulness about it which is pleasing to the eye in that there is a total absence of glare. The third method is the semi-indirect, which is half-way between the two former. Here the light is thrown toward the ceiling and then down, but it also permits a certain percentage of it to pass through the reflector. The glare of direct lighting is removed and the dark spot of the reflector, which is seen in the indirect system, is relieved. Its efficiency is partly between the two former methods.

The direct-lighting system is the one most commonly used in industrial buildings. It is not only the most economical but it is the least affected by the color of the walls and ceilings. The common practice in locating lights is to place them as high as possible where the ceilings are low and to drop them slightly when the ceilings are high. A good rule is to make eight feet the minimum height and consider ten or twelve as better if it can be secured. The horizontal spacing ought to be such that there is the same distance between lights as there is above the floor. No areas of low intensity should be allowed to develop. Reflectors should be of such a character as to reduce any visual glare or eye fatigue. The use of the semi-indirect method of lighting is limited to rooms where special effects are desired and the ceilings are light. The horizontal spacing of these lights may be twice as great as the distance from the floor to the lamp. Unless the ceiling and the fixture-reflector can be kept clear of dust considerable amount of inefficiency will result.

The entrance-halls of this class of building should be lighted brilliantly for advertising purposes. Semi-indirect in this case is quite satisfactory. Side-brackets will also enhance the effect at times, and the use of decorative globes improves the artistic results of the decorations. The stairs are an important part to keep well lighted, especially where platforms end and steps begin. A light on every landing and the avoidance of glary lights is a good rule to follow.

The intensity of light on the edge of the landing should never be less than one foot-candle. The lights for halls and elevators should follow similar lines.

In determining the intensity of any lighting system there are a few fundamental rules with which the architect should be familiar. If he desires to compute the intensity of light at a certain interval from its source, he should divide the candle-power of the light by the square of the feet distant from that source. This result is expressed in foot-candles. This foot-candle in the following table will be considered as the factor of illumination. In rooms for general work this factor is from 3 to 6. For fine bench-work the factor is 5 to 10.

To produce an intensity of 1.0 the following table gives the watts to each square foot of floor surface with lamps of 1.0 watt per candle-power. Lamps with higher efficient change the table in proportion.

WATTS PER SQUARE FOOT NECESSARY AT ONE W. P. C. TO PRODUCE AN INTENSITY OF ONE FOOT-CANDLE

LIGHTING UNITS	AREAS 30 X 30 OR LARGER		SMALL AREAS	
	LIGHT CEILING IN BOTH CASES			
	LIGHT WALLS	DARK WALLS	LIGHT WALLS	DARK WALLS
Prismatic.....	0.19	0.21	0.27	0.30
Heavy density opal.....	0.40	0.21	0.26	0.29
Light density opal.....	0.24	0.27	0.34	0.37
Semi-indirect.....	0.32	0.37	0.50	0.62
Totally indirect.....	0.32	0.37	0.50	0.62

Extract from the National Electric Light Association salesman's handbook.

*Example of Application.*—Find the number of watts necessary to properly illuminate a 50 x 100-foot book-store using semi-indirect lighting and considering that the walls are dark. Then as our factor we would take 5 foot-candles, and  $5 \times 50 \times 100 \times 0.37$  would give us 9,250 watts necessary to illumine it properly. To secure this with 100-watt lamps we would have to use 92 of them, or if we had 150-watt lamps we would have to use 82 of them, etc.

It must be noticed that we considered these lamps to have an efficiency of one watt to a candle-power. If the lamps we are to use are of higher efficiency, we reduce the number of lamps accordingly, and vice versa.

Now, in the case of laying out a lighting system for the home, the architect should make ample provision for all the extra loads which may be placed upon the wires in the way of auxiliary electrical devices, for these must be considered along with the lighting system. A liberal use of switches not only makes for convenience but also invites economy. A liberal distribution of baseboard outlets is almost a necessity for portable light attachments and electrical apparatus.

The living-room should be provided with side outlets and also a central outlet, and two or more baseboard receptacles for electroliers and additional fixtures. If the room is long, it is best to have the lights at both ends controlled by separate switches for convenience and economy. A wall switch ought also to control the baseboard receptacle where any electrical device like a vacuum cleaner may be connected. If there is a library, the room should be lighted with a general soft glow, and for reading purposes there should be a number of baseboard outlets for connecting portable reading-lamps without too long cord extensions.

The dining-room will require as much consideration for auxiliary outlets as for light outlets. The central lighting



dome over the table ought to be controlled by a three-way switch at the door from the pantry and by another at the general door from the rest of the house into the dining-room. Generally four lights of 50 watts each are satisfactory for this central light. There ought also to be provided extra side-wall brackets to go near sideboards and tables. A special outlet near the centre of the floor should be provided for connecting electric cookers, toasters, egg-boilers, percolators, etc. Another special wall outlet should be provided for heater, fan, or vacuum cleaner, and another near the serving-table for serving-tray or drink-mixer.

The arrangement of lights in the halls should be such that they can be turned on or off from each floor together or independently. A similar control switch should be located in the master bedroom independent of the other line.

Care should be taken in the bedrooms to place no light so that the dresser will be between it and the window, for shadows cast on the window-curtain at night are very annoying. This is especially to be avoided in bathrooms. The side-wall brackets are the best for lighting the bedroom, and they should be controlled by a switch at the entrance-door, which can be worked from both sides of the partition. Outlets for reading-lamp and desk-lamp ought also to be included. Additional outlets may also be installed for connecting electrical apparatus. In both the bedrooms and the bath turn-down lamps are very convenient. The usual height satisfactory for fixtures in the bedrooms is five feet and for switches four feet.

Due to the very easy effect upon the eye the use of the semi-indirect or indirect system of lighting has been introduced into the lighting of the home wherever possible. To be successful, the ceilings must be white, cream, or light

buff colors, and the finish should be matt or satin rather than glazed or varnished. The colors of the walls and hangings must also be considered in selecting the proper light. Dark greens, reds, or blues may reduce the light from 40 to 60 per cent. The elevation at which the bowls should be hung depends largely upon the ceiling height. Where the ceilings are eight feet, it is best to dispense with any attempt to light them with the indirect method. If they are about nine feet and the space to be lighted does not exceed 350 square feet, the bowl may be placed 6 feet 6 inches to 7 feet 3 inches above the floor, or if the ceiling height is ten feet, 7 feet 8 inches is a good location. This assumes the use of bowls 10 inches to 18 inches in diameter for ceilings up to eleven feet and 16 inches for ceilings from twelve to fifteen feet. Another thing which determines the height is whether the bowl diffuses the light broadly or focuses it closely. The thing to secure is the overlapping of lighted ceiling areas and reduction of any dark spaces to a minimum. The selection of bowls depends mostly upon their appearance with the furnishings and decorations of the rooms, but they should always cover the light.

Of course the selection of the kind of glass and the type of fixture is as much a part of the architect's duty as the determination of what decorations are to be used. His taste and personal likes and dislikes will enter into the problem, and no general requirements can be laid down for him. His taste has full play if he has built up the practical foundation beforehand in the correct layout of his lighting system and the right calculations for light requirements. However, if he has failed to first build his practical skeleton, he cannot expect to secure satisfying results with all the artistic skill in the world.

## Book Reviews

"SMALL COUNTRY HOUSES OF TO-DAY." Second series. By LAWRENCE WEAVER. Charles Scribner's Sons, New York.

A wholly new volume on the same lines as the author's former book, containing the work of many architects here published for the first time. "It is permissible to wonder what manner of houses will be illustrated in a book similar to this published twenty years hence. Will the present upheaval of social life make an indelible mark on domestic architecture and change the character of our country houses as it is changing our national policies?" We doubt it, for the English traditions of domestic architecture have survived many changes, and the deep-seated admiration for them that is becoming more and more evident even in so many of our own country houses will be a continuing influence. In this volume the author devotes a chapter each to houses in many parts of Great Britain, including a number of examples of interesting alterations. The introductory chapter dealing with "Client and Architect," "Fees and Services," "The Value of Models," "Examples in Various Materials," "Architects and the Public," "The War and House Design," contains many ideas of interest to the profession everywhere. The volume is rich in its numerous photographs of typical houses, various details and plans, and should prove of value to every architect in studying the possibilities of variation of the English styles in our own domestic architecture.

"WHERE THE GREAT CITY STANDS. A STUDY IN THE NEW CIVICS." By C. R. ASHBEE. Charles Scribner's Sons, New York.

As stated by the author, this book is "An Appeal to the Practical Idealist." In all idealism that is worth while, that has something behind it beside vague dreams and undigested thought, is the element of the practical. More often than not it is to the practical idealist that we owe the things that ultimately count the most in the public welfare. The book might be called Town Planning, based upon something more enduring than merely present material comfort. It is written in full sympathy with the great need of, and the aspiration for, a wider expression of spiritual things in our environment. We can hardly better give an idea of the author's intention than by quoting some of the chapter headings. "The Idea Behind the Arts and Crafts Movement," "What William Morris Stood For," "The Housing and Town Planning Movement," "The City Centre," "Zones, Lungs, and Spaces," "Dirt, Noise and the Menace of Mechanism," "Exhibition and Endowment in the Arts," "The Reaction of Town and Country." Here is a plea for standards in town planning, life, and workmanship. Among the illustrations are included the work of some American architects.

## A Great Architectural Library

THE largest architectural library in the western hemisphere and probably the second or third largest in the world, consisting of twenty-five thousand volumes relating to architecture and the allied arts, has been definitely linked with the School of Architecture of Columbia University by the appointment of Mr. William B. Dinsmoor as librarian and also as a member of the staff of the School of Architecture.

This library, located in Avery Hall on the campus of Columbia University, was completed in 1912 as a memorial of the late Samuel P. Avery and of his son, the late Henry P. Avery. Although the School of Architecture has been occupying three floors of this same building and been in constant contact with this library, there has been no human tie between them such as will now exist by the appointment of Mr. Dinsmoor to be librarian and also instructor in the school. Mr. Dinsmoor holds a degree from the Architectural School of Harvard University, has specialized in the history of architecture and art, and is the author of a number of articles and books on these subjects, and has made extensive archaeological studies in Greece.

We have received a copy of the University of Kansas Architectural Year-Book. It contains a number of interesting drawings and is a credit to the teaching and ideals of the university's fine school of architecture. Information regarding the courses in architecture and architectural engineering may be had by writing the registrar of the university. Among the illustrations is one of the new Administration Building.



WATERTOWN, CONN.



MILFORD, CONN.  
FROM PHOTOGRAPHS BY ALBERT G. ROBINSON, AUTHOR OF "OLD NEW ENGLAND DOORWAYS."



COHASSET, MASS.



BENNINGTON, VT.



FARMINGTON, CONN.



IPSWICH, MASS.

SOME OLD NEW ENGLAND CHURCHES.



# Possible and Actual Savings in Building Expense

*By Rossel Edward Mitchell*

**I**N the October number of *ARCHITECTURE* is a splendid suggestive article by Richard P. Wallis entitled "A Possible Saving in Building Expense." After discussing the facts leading to the present high cost of building and consequent slowing down of building operations, Mr. Wallis concludes that "every effort should be made to discover a method that will tend to diminish this reluctance to build."

He then suggests that one very evident way of saving a considerable percentage of the cost of the building would be the elimination of the unearned profit made by the general contractor on the work of his various subcontractors. "The general contractor has in a sense become the clearing-house of building rather than the builder himself. He rarely combines within himself all of the trades necessary to turn out a completed building. Most likely in the past he has been a masonry contractor or a carpenter contractor who has taken over to himself the handling and direction of the other trades incidental to building."

Some further noteworthy truths brought out by Mr. Wallis are:

The number of profits paid under the general-contract system are three: one to the architect, one to the general contractor, and one to the subcontractor.

The dissatisfaction of the subcontractors with the general-contract method on account of the manipulation of bids by the general contractor, together with the great credit risks entailed by the subman, while the general contractor has little to lose, the consequences of this condition being that the owner's interests are militated against, and the lowest bids cannot be obtained because frequently the general contractors cannot get the lowest subbids.

Also, the general dissatisfaction caused by the employment of incompetent and unreliable subcontractors, making the owner dissatisfied, getting the general contractor into arguments with the owner, and making it impossible for the architect to give satisfaction.

Mr. Wallis concludes from this that the logical solution is to make the designing architect or engineer responsible for the coherent prosecution of the work.

In this we most heartily agree. We would like to have the entire discussion as set forth by Mr. Wallis framed and hung up in the office of every architect in the United States who is interested to know why the profession is being pushed aside from major fields of building activity by men far less competent, less thoroughly trained, less interested in creditable building, and less disinterested from every standpoint than is the architect.

The only addenda we would make to the able and practicable discussion by Mr. Wallis is to say that his conclusion that his suggestions "could" be followed should be changed to "are being" followed, and successfully, by numbers of competent architects. This firm has been practising just the methods outlined by Mr. Wallis for ten years. For the benefit of the profession we take this means of summarizing the results:

First, by eliminating the general contractor we have come directly in touch with large numbers of subcontractors

and material-men, thus coming into intimate contact with every phase of the building business.

We have been able to attain a position among the subcontractors characterized by confidence and eagerness to submit bids.

We have entirely eliminated the vital credit risk which exists with the subman when he bids to the general contractor; consequently, we get the lowest bids possible at cash prices.

By eliminating the general contractor we have been able to build from 10 to 20 per cent cheaper, as evidenced by bids occasionally submitted by general contractors who wish to try their skill at bidding in competition with our preferred methods.

We have gained complete control of our building operations; each subcontractor must come to us for his certificate, and we are in a position to make him "walk chalk."

We have eliminated dual responsibility to the owner; instead of the owner ricocheting between the general contractor and the architect, he comes to us and to no one else; the subman does not come in contact with the owner at all.

We have been able to extend our office organization to include expert estimators and superintendents.

We have been able to give our work better superintendence than under the general-contract system, because we secure a higher price for our services.

We have been able to give our clients greater satisfaction, because they know the exact cost of every branch of the work; consequently, have a fuller realization of what they are getting for their money. We are able on small buildings to put on a superintendent at the owner's expense, because the owner knows he is paying no big general contractor's profit.

We are able to pay the salary of a superintendent out of our own charges for the larger class of work, because our charges are sufficient to justify it.

Last, but not least, the general contractor is not backing us off the stage; we have yet to find a business man who does not see the advantage of our methods as soon as they are explained to him; consequently, we are now doing investment work which a few years ago in our local field was handled almost entirely by the general contractor.

In conclusion, we are very positive that our methods are the only ones which will place the architect where he belongs—at the head of the building profession. Under these methods the client gladly pays us 10 per cent, whereas under the general-contract method he frequently begrudges 6 per cent, and sometimes eliminates the architect from the actual construction work.

The architect, under this plan, is able to render a high quality of service; he is able to build up an efficient organization; he is enabled to build more cheaply and secure better work. By rendering a greater service to his clients and an obvious service, he secures the respect and good-will of the client, and is able to put his calling on a strong financial basis.



## Stonewell Cottage

THE great chimney rises like a buttress at the south corner, and the adjoining gable nestles down in the hillside as though the cottage sought protection in the bosom of the hills (No. 1). No. 2 shows how swiftly the ground slopes, and the plan (No. 3) marks how the building twists to follow the contour of the site; yet, even so, seven steps are needed between kitchen and sitting-room. The entrance door brings us straight into the kitchen—the soft protection of a porch was scorned—and a settle serves to screen the hearth from the draught. The lintel over the fire-place is an amazing bit of construction, a single gigantic slab weighing a ton and a half, a rough shard of slate that had lain neglected in an old quarry. To the right is a door to a passage, with adjoining larder and an exit to a shed, or, more properly, undercroft, where wood and the like may be stored. In the north wall is a big window, giving ample light, and to the left broad steps laid cornerwise lead to a triangular landing. Here starts a winding stair in a circular

projection (shown in No. 2) that would take us to the bedroom floor; but first we go to the left, up three steps, into a sitting-room. To the left is a recess (that is in truth a chimney-corner, for it is the internal result of the great stack outside), and in the right-hand corner a steep and narrow stone stair winds up in the thickness of the wall to the chief bedroom. It is wholly in the sloping roof. From this room we enter another—there is, of course, no corridor—from which again we may, if we will, pass upward to another, neatly named Olympus. Reference to No. 1 shows a tiny window set high in the thatch. This it is that lights this entertaining bedroom, which it is fair to say was an after-thought, and is used only when the pressure of hospitality demands an extra and unusual bed. There is yet another bedroom over the northeast end of the cottage, which is reached from the middle staircase.

*From "Small Country Houses of To-Day," second series, by Lawrence Weaver.*



# Modern Building Superintendence

*By David B. Emerson*

## CHAPTER VI

### SHEET METAL WORK, ORNAMENTAL IRON AND CARPENTER WORK

**B**EFORE the plastering was commenced the skylights on the roof were set and glazed. They were constructed of galvanized rust and corrosion-resisting sheet iron, which is made up from a pure iron-ore base. The bars in skylights were made up of No. 24 gauge metal, with condensation gutters formed on the bars; they had wrought-iron stiffening bars encased in the sheet metal. These bars were well painted with red lead before the skylights were assembled. The skylights had gutters around the eaves, into which condensation gutters discharged, and were provided with leaders to discharge all water onto the main roof. Wherever the galvanized iron was brought down onto the skylight curbs, it was kept away from the copper by means of a three-eighths-inch wooden strip placed between the two metals, to prevent electrolytic action. All skylights except those over the elevators were glazed with wired glass; the skylights over the elevators were glazed with rough plate glass, one-eighth inch thick, and protected with heavy galvanized wire netting guards, inside and outside, which is one of the requirements of the National Board of Fire Underwriters. While this work was being done, and the plasterers were still working, the ornamental ironworkers were busy setting their work, the vault-light in the sidewalk being set as soon as the construction was ready to receive them. The vault-lights were constructed with reinforced concrete frames, set with prismatic glass, and fitted with abrasive metal buttons, to prevent pedestrians from slipping, which is the cause of many serious accidents. The coal-hole covers in sidewalk were placed as near to the curb as practicable, and were of the flush safety-hopper type, of abrasive metal with concreted hinges.

On the interior, work was commenced setting the ornamental railings for the staircase. All castings were inspected as previously described, and a few were found to have sand-holes and to be defective, and were rejected. In the setting of this work no exposed screw-heads were allowed, all of the work having to be put together by means of concealed screws and rivets, and had to be fitted without breaks or shoulders. The elevator enclosures were made up of cast-iron frames, glazed with polished plate wire glass. The doors to enclosures were hung on ball-bearing, two-speed hangers, made with an enclosed track, hung from an angle iron bolted to the inside of the elevator enclosure; the hangers had adjusting screws so that they might be quickly adjusted at any time, and kept in perfect alignment. Elevator-door saddles were grooved to hold doors in place, and were made with a non-slipping surface, as the usual iron elevator-door saddles become very slippery with use, and are dangerous to passengers. The elevator doors were equipped with combination liquid and spring checking and closing devices, with positive electric interlocks which made it impossible to open the doors until the car had stopped, or to start the car until the door was closed. The doors were opened by hand and closed by the action of the spring in the closer; the piston descending through the liquid in the cylinder checked the door in the last few inches of its travel,

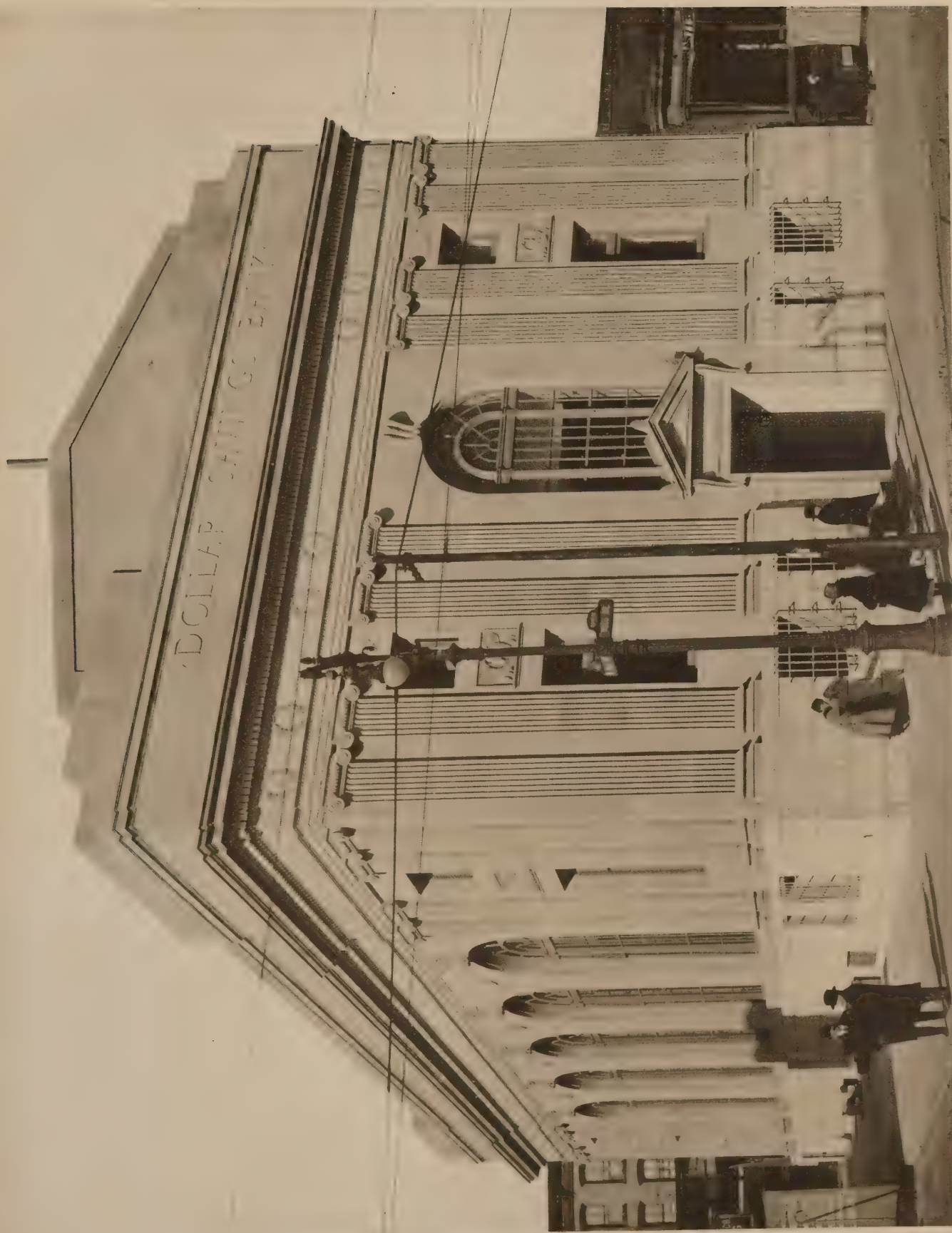
and prevented slamming. The electric interlocks were connected to the arm of the closer and were wired in series with the elevator control circuit, so that when the door was closed the circuit was closed, and when the door was opened the elevator control circuit was opened, thus absolutely preventing any movement of the elevator car while the door was open.

In each elevator there was installed an emergency release switch, so that in case of fire or other emergency the interlock was made inoperative. The setting of the window-frames and sash was progressing during the time that the other work was going on, and they were now all in place. The windows in the first story on the street fronts were of cast and wrought bronze, of a wind and weather tight construction. The cast and wrought bronze was to be of even color throughout. All of the wrought bronze was worked through steel dies, and had to be carefully examined to see that all mouldings were true and straight, and none was allowed to be less than No. 10 standard American bronze gauge in thickness. All cast bronze had the fireskin removed, and all of the ornament was rechased. Castings were all inspected for sand-holes and defects in finish. All joints in frames and sash were brazed, and the work was put together by means of concealed screws and rivets. The glass stops and hardware were held in place by means of screws of the same alloy and color as the rest of the work; brass screws were positively not allowed to be used.

The frames and sash in the upper stories of the building were made up of sound, thoroughly seasoned white pine, and covered on all exposed surfaces with sixteen-ounce soft rolled copper. The covering was carried into the glass rebates of the sash. The frames and sash were inspected to see that all metal was drawn down smooth over the wood, and that it was free from kinks and buckles, also that it was turned down over the wood at the intersections, and that all joints were well soldered, so that no water could reach the cores and cause decay. All sash were provided with glass stops covered with twelve-ounce copper.

All of the glass in elevator enclosures, metal sash and metal-covered sash was well bedded in self-hardening putty before applying the glass stops. The putty was made up in the proportions of 87 per cent pigment and 13 per cent vehicle; the pigment was composed of 85 per cent whiting, 10 per cent pure white lead, and 5 per cent litharge or monoxide of lead; the vehicle was pure raw linseed oil. This putty was used, as the ordinary glazing putty, composed of whiting, white lead, and oil will not harden on metal surfaces. The work of glazing the windows being completed, and the plastering having thoroughly dried, the work of setting the steel trim and hanging the doors was commenced. All of this work was made up of furniture stock drawn steel, which was patent levelled and finished in five coats of enamel baked on. All joints in trim were made interlocking and were electrically welded. The angle joints in all mouldings were formed by coping the vertical mouldings over the ends of the horizontal mouldings, which gives the appear-

*(Continued on page 54)*



DOLLAR SAVINGS-BANK, 147TH STREET AND WILLIS AVENUE, NEW YORK.

Renwick, Aspinwall & Tucker, Architects.



(Continued from page 52)

ance of a perfect mitre, and imparts the greatest strength to the joint. All of the work was erected and fastened by means of concealed fasteners on the back of trim, so that no nails or screws were exposed on the face of work. The door-jambs were made up of No. 18 gauge metal, formed of one piece, with moulded stops. The jambs were securely fastened to the steel bucks. The doors were made up of No. 18 gauge steel, with panels of one thickness of No. 12 gauge steel. The stiles and rails were formed from one piece of metal brought together on the inside edge and turned back upon itself, thereby forming a lip to receive the panels, and then riveted together. The doors had iron reinforcements on the inside to receive the hardware. All of the hardware was of patterns especially designed for hollow metal construction. The transom lifters and door checks were of the concealed type. Locks were of the unit type, and were master-keyed and grand master-keyed.

The carpenter work on a building of this type is not a very large item, but is nevertheless still a necessary item. The carpenter makes all of the rough centres for the arches and does whatever wood framing there may be to do throughout the building. After the roof was covered the flagstaff was set in the iron foot-block which was provided for it. Although steel flagstaffs are made and are more fire resisting than wood ones, the fire risk is so infinitesimally small that it is better to use a wood staff, which can be made far more graceful than a steel staff. The staff on our building was figured to show forty-five feet above the cornice, and to be nine inches in diameter at the base. It was worked from a selected stick of Oregon fir. As no instructions had been given for tapering the staff, we gave orders that the top diameter should be four and one-half inches, which was one-half the lower diameter. The height of the staff was then divided into four quarters, the diameter of the first quarter above the roof was made fifteen-sixteenths of the lower diameter, the second quarter was seven-eighths of the lower diameter, and the third quarter was three-quarters of the lower diameter. The flagstaff was finished at the top with a *lignum vitæ* truck with a hollow spun-copper ball, eight inches in diameter, set on a galvanized iron rod, one-half inch in diameter. The flagstaff was painted two coats of white lead and oil before it was erected and one coat after erection. The ball was gilded with leaf gold. The carpenters had already commenced work in the banking rooms while the metal trim was being set in the building. The floor sleepers were laid on the concrete floor-slabs; they set sixteen inches on centres and were nailed to spot grounds set twenty-four inches apart and well bedded in cement mortar, and carefully levelled up to receive the sleepers. The sleepers were two-inch by four-inch, short-leaf yellow pine, bevelled on both sides. The first load of sleepers which were delivered at the building were only bevelled on one side, which is quite a saving to the contractor, as a wide stick is run through the saw once and two sleepers are the result, whereas to bevel both sides means running each piece through the saw twice. We ordered these sleepers removed from the building and sleepers bevelled according to the specifications furnished in their place. All sleepers were given a brush coat of creosote wood preservative before laying. After the sleepers were in place they were filled between with cinder concrete made up of one part Portland cement, two parts clean, sharp sand, and ten parts clean steam cinders. The cinders were well washed to remove all sulphur and other foreign matter. After the cinder concrete had set, the under flooring was laid. The under floors were of one and one-eighth inch, C-grade, square-edged

boards, laid with open joints, not less than one-quarter of an inch wide, and well mitred to every sleeper with two eight-penny nails. By this time the finish for the director's room and the president's had arrived and was being installed. Care was taken as soon as the finish arrived at the building to stack it so that it would not be damaged, and in a thoroughly dry place, so that it would not absorb moisture, strict orders having been previously given to the cabinet-maker not to deliver any finished material on damp nor rainy days, as kiln-dried material absorbs moisture very readily, and the result of the kiln drying is entirely lost if the wood is allowed to become filled with moisture. We made several visits to the cabinet shop to inspect the work while it was being made up.

The finish in the director's room was specified to be of first quality Honduras mahogany, all of the work to be veneered. The face veneers for panels were cut one-twenty-eighth of an inch thick, the veneers for stiles and cross-rails and for doors were cut one-eighth inch thick, and the end veneers of doors were one-half inch thick. All of the large wall panels were veneered in four sections carefully matched, using a crotch mahogany. All of the panels were built up of what is known as five-ply laminated construction. The cores for all of the work were made up of well-seasoned, C-grade white pine, free from loose knots and shakes, care being taken to see that all of the wood was old stock. It was glued together in strips not more than three inches wide. The work was glued up at least two weeks before any of the cross veneering was done. The cores were all carefully levelled up perfectly true, and brought to an even thickness, and then veneered with a one-eighth inch white wood veneer and then cross-veneered with the mahogany veneers. The backs of all panels were veneered with the same stock mahogany as the fronts, to prevent warping and twisting. All doors were veneered on built-up cores and were framed together with mortise and tenon; the tenons were made with three-quarter-inch shoulders, and were securely wedged and glued into the mortises. The stiles and rails of the doors were grooved on the inner edge and a five-eighths inch white-pine cleat was glued into the grooves to receive the panel mouldings, so that the panels would be loose. The woodwork was all built up and put together at the factory, and was dowelled and fastened with lay screws at the corners. The finish in the president's room was of unselected birch, to be enamelled. This wood, on account of its hard surface, density, and texture, takes enamel particularly well. The back of all of the woodwork was given a heavy coat of damp-proof paint before leaving the factory. In erecting the woodwork at the building it was all required to be back-fastened, as no face nailing or screening was allowed.

Practically all that was now left to be done in this portion of the building was the finishing of the woodwork and the laying of the parquet floors, which was not done until the woodwork was finished. Before applying any finish to the woodwork it was all carefully sandpapered with the grain, and thoroughly dusted off and wiped clean. The mahogany woodwork in the director's room was washed with a mild potash solution to kill all sap, and to remove any grease in the wood. It was then given a coat of acid stain applied with a sponge, and then rubbed into the wood with a cheese-cloth pad which distributes the stain evenly over the surface of the wood; the work was then sanded down with 00 sandpaper, and given another coat of stain, diluted with one-half water. It was then filled with a paste wood-filler, which was allowed to set until a flat effect was produced, when it was rubbed briskly across the grain with

a piece of burlap, and the surplus filler wiped off with a clean rag. After that it was given three thin coats of pure gum shellac, and sandpapered between each coat with 00 sandpaper, the final coat being rubbed down with pumice-stone and water, and it was finally finished with two coats of prepared beeswax. The woodwork in the president's room was given a priming coat of pure white-lead reduced with equal parts of linseed oil and spirits turpentine, then two coats of special enamel undercoating and two coats of an approved enamel were applied, each coat being allowed to harden thoroughly before another coat was applied. Each coat was sanded with 00 sandpaper, and the final coat was rubbed to a dull finish with fine pumice-stone and water. The painter was instructed to shellac and varnish the bottom and top edges of all doors to prevent moisture from entering the stiles, which is a frequent cause of swelling and twisting of doors, with the consequent annoyance to the occupants of the building. After the woodwork in the director's room and president's room had been finished and was thoroughly dry, the finished floors were laid. Before laying the finished parquet flooring a levelling floor five-eighths of an inch thick was laid on top of the under flooring and running in the opposite direction. The parquet flooring in the director's room and the president's room was of Philippine teak, and that in the working space in the bank

was of clear white maple. The flooring was five-eighths of an inch thick, in two-inch by eight-inch strips, tongued and grooved, and laid herringbone pattern, with four-inch wall-line borders. It was blind-nailed, with one and one-eighth inch No. 15 cement-coated parquet-flooring nails, using two nails to each strip. After the floors were laid, they were hand scraped, the scraping being done with a shearing cut lengthwise of the grain. They were then gone over thoroughly with No. 1½ sandpaper, swept clean, and wiped with a soft cloth until all of the dust was removed, and were then ready for finishing. They were given a wax finish, after first filling with wood alcohol and light-colored umber, mixed to the consistency of thick cream, which was thoroughly rubbed into wood, followed with two coats of alcohol shellac, each coat being well rubbed when dry, then one coat of linseed oil and pumice-stone, and one coat of wood alcohol and turpentine in equal parts were applied, and finally three coats of prepared floor wax, rubbed in with hot irons. The work described in this chapter completed the general construction, and while it was in progress the work of installing the plumbing, heating, electric wiring, elevators, bank fixtures, and vaults was progressing, and was now completed and will be described each in its turn.

(To be continued.)

## Announcements

Dillon, McLellan & Beadel, architects, 149 Broadway, Singer Building, New York City, wish to announce that Mr. Arthur Dillon, having finished his work for the Federal Division of Rehabilitation, has resumed the practice of architecture.

Mr. A. A. Baerresen announces that Mr. Frederic Hutchinson Porter, of Salem, Mass., is a member of the new firm of Baerresen & Porter, with offices at 1821 Carey Avenue, Cheyenne, Wyo. Manufacturers' catalogues and samples are requested.

Miss Marian Coffin, landscape architect, Fellow A. S. L. A., begs to announce that she has removed her office to 830 Lexington Avenue and has associated with her Mr. James M. Scheiner, architect, late of the 302d Engineers.

Jallade and Lindsay, architects and engineers, wish to announce the association with them of Mr. Harry E. Warren, S.M., in the general practice of architecture and engineering under the firm name of Jallade, Lindsay and Warren, 37 Liberty Street, New York.

**\$300 in Prizes.**—The Chicago Brick Exchange calls the attention of Chicago architects and draughtsmen to the new variety common brick known as "Dearborn" brick. Chicago architects and draughtsmen are asked to submit designs for a fireplace, counter, and one or two more panels. The Chicago Brick Exchange is the patron of the competition, and offers the following prizes: First prize, \$150; Second prize, \$100; Third prize, \$50. Mr. Charles L. Frost, Mr. Emery B. Jackson, Mr. I. K. Pond, and Mr. Howard Shaw have very kindly consented to act as judges. Designs must be in by Tuesday, February 17, 1920. Write, phone, or

call the Chicago Brick Exchange, 133 West Washington Street, Chicago, Illinois, for complete programme and blueprint showing dimensions of room. Phone, Main 2745 and 2746.

This competition has the approval of the committee on competition of the Illinois Chapter of the American Institute of Architects.

*First Pan-American Exposition of Architecture.*—Architectural and professional institutions of the United States are invited to send exhibits to the first Pan-American Exposition of Architecture, which will take place in the city of Montevideo, Uruguay, from the 1st to the 7th of March, 1920. Copies of a preliminary programme of this meeting in Spanish may be seen at the district and co-operative offices of the Bureau of Foreign and Domestic Commerce.

Harold Laurence Young, 253 West 42d Street, New York, has resumed the practice of architecture and will be glad to receive catalogues and samples and prices on building materials.

The architects of the Overland Service Building, Boston, published in the December number, were Mills, Phines, Bellman & Nordhoff.

William G. Herbst and Edwin O. Kuenzli take pleasure in announcing their partnership for the practice of architecture. The firm, now known as Herbst & Kuenzli, architects, maintains offices at 721 and 722 Caswell Block, Milwaukee. Mr. Herbst was formerly associated with the late William F. Hufschmidt. Mr. Kuenzli was a member of the firm of Charlton & Kuenzli of Milwaukee, Wis., and Marquette, Mich.





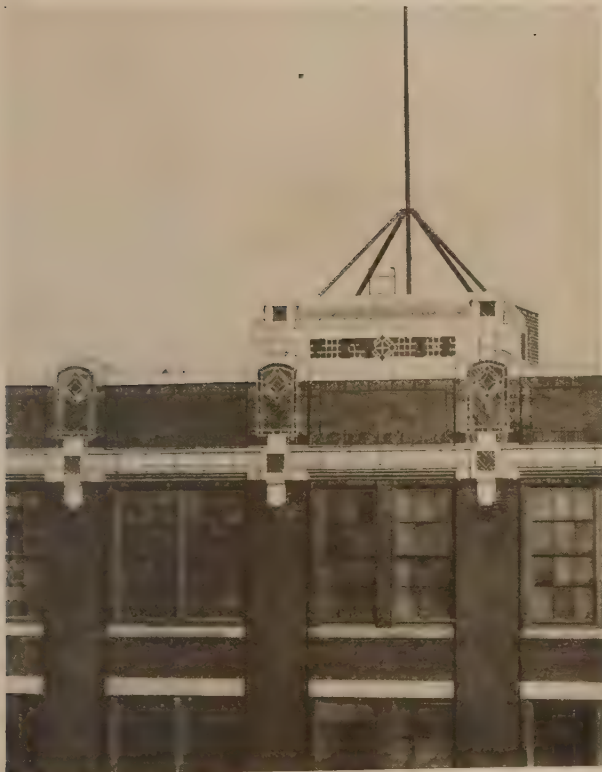
EXTERIOR.



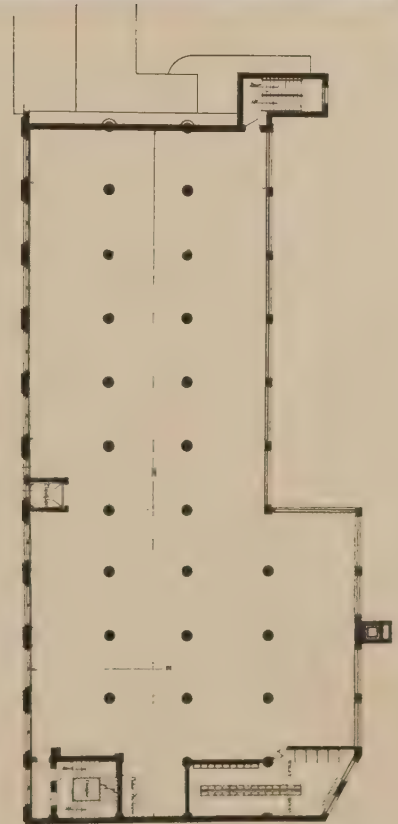
BANKING-ROOM.

Shampan &amp; Shampan, Architects.

THE THRIFT BANK, DE KALB AVENUE CORNER RYERSON STREET, BROOKLYN, N. Y.



DETAIL OF ORNAMENTAL CORNICE.



PLAN.

Ballinger & Perrot, Architects and Engineers.

HUGO BILGRAM GEAR WORKS, PHILADELPHIA, PA.



## Programme of Competition for Design of Architect's Certificate

THE COMMONWEALTH OF PENNSYLVANIA

**Purpose:** The State Board of Examiners of Architects are to issue certificates to all persons entitled to practice architecture in the State of Pennsylvania and therefore hereby institute a competition for the purpose of securing a design for a certificate of a character and artistic quality worthy of the profession. It is proposed that designers shall have as much freedom as possible in working out their respective solutions of the problem. It is suggested, however, that inclusion in some form of the Pennsylvania State coat of arms will be appropriate.

**Competitors:** All architects, draftsmen, or other designers are eligible to enter the competition.

**Text:** The treatment of the lettering and placing of signatures and seal shall be shown by each competitor using the following text:

In the Name and by Authority of the  
COMMONWEALTH OF PENNSYLVANIA  
To all to whom these Presents shall come, Greeting:  
KNOW YE THAT  
.....  
of....., County of....., State of.....  
Having given satisfactory evidence of the qualifications required by law to practice as an *Architect* is hereby

ADMITTED TO PRACTICE ARCHITECTURE  
IN THE STATE OF PENNSYLVANIA  
this.....day of....., 1920, and, therefore, is a  
Registered Architect.

STATE BOARD OF EXAMINERS OF ARCHITECTS.

[Actual size of seal  $2\frac{1}{4}$   
inches diameter.]

In witness whereof the Board of  
Examiners of Architects issues this  
Certificate No.....under  
the seal of the State.

.....  
President.

.....  
Secretary.

**Medium:** Certificate shall be designed for reproduction from engraved steel plate, printed on parchment.

**Size:** Certificates are to be printed on 16 x 14 inch sheets of parchment. Each design submitted shall be drawn 16 x 14 inches for the purpose of reduction to the final size of 12 x 10 inches. The horizontal dimensions are given first.

**Rendering:** The design of each competitor shall be rendered with a pen in Indian ink on white bond paper.

**Anonymous Designs:** Each design shall be submitted without any distinguishing mark which would identify the author. Each design shall be presented accompanied with a plain sealed envelope containing the name and address of the author.

**Time and Place of Submission:** Each design shall be wrapped under seal and marked on the outside: "Competition for design of architect's certificate," and delivered on or before April 1, 1920, to Mr. M. I. Kast, 222 Market Street, Harrisburg, Pennsylvania.

**Jury:** C. C. Zantzinger, Philadelphia; Edgar V. Seeler, Philadelphia; Paul P. Cret, Philadelphia; Reinhardt Dempwolf, York; Frederick A. Russell, Pittsburgh. In the event that any of the jurors are unable to act the vacancy or vacancies will be filled by the State Board of Examiners of Architects.

**Prizes:** Successful competitors will receive the following cash prizes: first, \$200; second, \$100.

STATE BOARD OF EXAMINERS OF ARCHITECTS,  
JOHN HALL RANKIN, *President*, CLARENCE W. BRAZER,  
M. I. KAST, *Secretary*, EDWARD STOTZ,  
EDWARD H. DAVIS.

## A Competition for the Development of a Small Country Property

A competition for the development of a small country property will be held by the Own Your Home Exposition, under the auspices of the New York Chapter of the American Society of Landscape Architects, Mr. Geiffert, Jr., acting as professional adviser to the exposition management.

The object of the competition is to secure the best design for a plot located at the intersection of an avenue and a street; 144 feet on the avenue and 270 feet on the street. One side of the lot faces a sandy beach. The street runs at right angles to the beach and ends at the high-water line. The first prize design will be executed in miniature, one-sixth full size, at the Own Your Home Exposition at the Grand Central Palace during the week of May 1, 1920. The residence, greenhouse, and garage at the same scale are now being built. These three buildings are to be located on the plan, and there must be a flower garden and a vegetable garden. Any other features are left to the discretion and judgment of the competitor. Any one who signifies his intention to compete may ask questions of Mr. Geiffert in regard to the work, and the answers to any such questions will be sent to all competitors. No questions will be answered after March 6th.

The first prize will be \$125, the second \$75, the third \$50.

Three drawings are to be submitted:

1st. A general plan on mounted paper, rendered.  
2d. A planting plan drawn in ink on tracing paper. 3d. A drawing on mounted paper showing such details as the designer wishes, to explain his work.

The scale of all drawings is to be that of the topographic map. The size of the drawings is to be twenty-six inches by thirty-eight inches. The general plan should show grades by figures, no contours. No fences are permitted on the boundary lines. Any medium may be used in rendering the drawings; however, much more importance will be given to the logical and artistic planning of the plot and the selection of materials in regard to their fitness to local conditions and their effective composition than to the presentation, which shall not go beyond what is strictly necessary to make the plans intelligent. Each set of drawings will be signed by a *nom de plume* or device and accompanying the same shall be a sealed envelope with the *nom de plume* or the device on the exterior. The name and address of the contestant is to be inside. No contestant shall be permitted to submit more than one design alone or in association with other men. The drawings are to be delivered at the office of the Own Your Home Exposition, Grand Central Palace, Lexington Avenue and 46th Street, not later than March 27th.

The jury appointed by the Chapter to judge these designs is Charles Downing Lay, Gilmore D. Clarke, Noel Chamberlin. The decision of the jury will be final. The jury will send a copy of its report to each competitor, and will reach its decision not later than April 3d. All designs will be exhibited at the Own Your Home Exposition, at the conclusion of which all except those receiving prizes will be returned to their authors.

The competition is open to all members of the New York Chapter of the American Society of Landscape Architects, all draftsmen and junior draftsmen employed in offices of practicing members of the Chapter, and students of landscape architecture at Cornell University.



# Building's the Thing

*By Colonel W. A. Starrett*

**L**INES of congested traffic, cold winter evenings, crowds standing waiting for overcrowded street-cars that pass without even stopping; women tired, bundles in their arms, waiting expectantly at the curb, unable to obtain means of transportation—waiting patiently, doggedly; the lights in rows upon rows of solidly built streets twinkle to the last window, and the din of traffic aggravates the jaded nerves of tired people, who feel the spirit of unrest. A thousand reasons overwhelm the mind as to the cause, and the crowds, in numb bewilderment, turn from one thing to another as the reason for their discomfort, which of late years seems to present an unbearable burden.

People gaze gully at the automobiles that rush past in the evening gloom, bearing what seems to them the more fortunate, who are able thus to own their own transportation—yet in those automobiles the same spirit of unrest pervades; something's wrong. A subconscious feeling of dissatisfaction is everywhere manifest. From soap-boxes and cart-tails street-corner orators scream their favorite doctrines to the restless groups around them. Everything from Bolshevism to monarchy is hailed or accused, and with it all the spirit of unrest remains.

Building's the thing. Throughout the length and breadth of the land the cry for proper housing and shelter goes up. Every big city is infected with the virus of unrest which arises from the physical discomfort of thousands of people. The housing is inadequate. Many of those who have homes are desirous of better ones; those less fortunate desire any home at all; the very animals require better shelter. And all the time, while the population is growing, the country's building demand is constantly widening the gap that lies between it and its supply.

Habitations of all kinds, for rich and poor alike, are required—yes, even demanded and fought for; and silently the unconscious appeal, which expresses itself in unrest, goes out through the nation for still more structures.

The war, with all its cruelties, inflicted unseen, and at first unobserved, one of the greatest cruelties on civilization by wrenching from its natural course the steady flow of building construction, which had, almost from time immemorial, kept its pace with the demands of the human race. Like the air we breathe and the water we drink, it seemed to continue to fill its appointed place without effort and in the natural course of events. For all time the human race has been led on its path of civilization by its structures. The shock of war caused the dissipation of this mighty current of human necessity, and now we are faced with the consequences of that interruption. To-day the cry throughout the civilized world will not be stilled.

Human intelligence could not have started with anything more fundamental. First, the cavemen must have had among them artisans who were more skilful than others in the removal of obstacles and the hewing out of hollows in the hillsides. Special aptitude and knack in these then prodigious tasks must certainly have been the first human efforts in the division of labor, and men who were dexterous at these things must have been in demand to continue at their work, while others afforded them protection and brought them food.

Down through the ages the path of civilization is

marked by the structures men have built. Archaeology finds its greatest support in the remains of buildings, and in the twilight of antiquity the records of ancient civilization turn upon the remaining fragments of their structures.

Italy and France in the Renaissance left the measure of their cultural civilization in the useful and ingenious structures of their times, and the early dawn of modern times is ushered in with the glorious heritage of the decorative skill of the constructors who, upon first finding shelter, turned their thoughts toward the gratification of their eyes in the beautiful interpretations we now call the classics.

The magnificent cathedrals of the Middle Ages expressed structurally the spiritual unrest which was the only escape the people of that era saw from oppression by a vicious monarchical system. These structures remain to tell the story so much more plainly than the whole literature of that time to him who runs and reads.

Northern France and Belgium emerge from the hail of war to find that their oppressors considered them most vulnerable through the destruction of their structures, and while we observe with loathing and repulsion the destruction of the great cathedrals at Rheims and Ypres, we realize that they are after all only the blind stabs of fury—the spiritual insults to the people—but the deadly blight of Germany laid its most ruthless hands upon the habitations of the people. To destroy their homes and workshops was to destroy them.

Through all the ages men in their spirit of unrest have turned from one standard to another as the panacea for their seeming greatest ills. Religions have come and gone; isms and fads. The Jews moved from a mighty liberator through all the gamut of forms of government to the judge-ships, and then were themselves destroyed; and yet they were the closest to happiness and the fulfilment of their national aspirations when they had built the city of David.

Such temporary and ephemeral standards of value as have come and gone through all ages have grouped themselves about the things that, in each time, seemed most important. Spain was overwhelmed by a love for gold; Holland's fleeting maritime supremacy set its store on the same theory of the domination by a fleet that led the Venetians into the illusory sense of security that turned on the question of the domination of the seas. And yet Holland's greatest historic achievement turned out to be what seemed the obscure performance of necessity. The building of the dikes, probably the greatest engineering feat of all times, measured in terms of human usefulness, was nothing but a preamble to the building of the permanent structures which are to-day the visible evidences of her standing.

In our modern complex economic system men's minds cloy at the vast diversity of elements that go to make up the sum total of human existence. In despair they turn from one standard to another—now it is gold—now it is copper—now it is wheat. Of late generations it has been thought that the index of human requirements could be built upon iron and steel. These fundamentals, entering as they do into almost every conceivable human activity, must surely be the standards by which men may judge their progress and their material advancement. Yet these things are illusory, for back of it all lies the same fundamental re-



quirement—shelter and habitations. The national index, perhaps too profound ever to be brought out for clear comprehension by the masses, must nevertheless be founded, when founded it is, upon the country's progress in building. Structures of steel, more structures, habitations, offices, factories, hotels—the whole human cry fundamentally goes up for food and shelter; and yet, without shelter, food is not possible. Squarely across the path of human civilization lies its building programme.

The soap-box orators may be able to impose their vicious propaganda upon a distraught and bewildered people. Monarchies may rise to rob nations of the fruits of their productive efforts on the spurious argument of centralized control; but underlying all these, the yard-stick of civilization changeth not.

Unless men build they will not progress; unless they build they will retrogress, and the measure of their civilization, whether under Bolshevism or monarchy, will be recorded for all ages in the adequacy of their structures.

Unrest, Bolshevism, Socialism, anarchy, perhaps monarchy; wages, hours of toil, production, government itself, of whatever source, cannot escape the inevitable fundamental—the measure of our progress from the delirium of war and the convalescence of the post-war unrest will inevitably rest on the resolution of the people to turn from their isms and apply themselves to the production of the structures necessary for the continuance of their civilization. Building's the thing.

## SPECIFICATION WRITER

Additional man capable of handling larger and more important class of industrial and commercial work.

### EXCELLENT OPPORTUNITY

Send complete information as well as specimens of work if possible.

ALBERT KAHN, Architect

MARQUETTE BUILDING, DETROIT, MICHIGAN



FRANCIS HOWARD  
President

**HOWARD STUDIOS**  
Garden Furniture—Memorials  
7 West 47th St., New York  
Send 50 cents for Catalogue  
400 Illustrations

## Announcements

The Indiana Limestone Quarrymen's Association with headquarters at Bedford, Indiana, in anticipation of a year of unprecedented building, has recently been reorganized and expanded with a view to increasing its facilities for serving the architectural profession. The association maintains a staff of field representatives who, unhampered by the bias of salesmen, are able to render valuable help in the solution of problems connected with their industry.

The personnel of the association has been increased and several important appointments made. Mr. H. S. Brightly, formerly of Chicago, becomes secretary.

Mr. George B. McGrath has been transferred from Washington, D. C., and is now in charge of the Metropolitan Service Bureau at 489 Fifth Avenue, New York City. He will also temporarily continue his activities as field representative of the association in the Atlantic States.

Mr. C. Roland Yanson has been transferred from Bedford, Indiana, and placed in charge of the Chicago Service Bureau at 231 Insurance Exchange, Chicago. Mr. W. S. Whyte with headquarters in Bedford will cover the Middle States territory succeeding Mr. Yanson.

The association's activities in the Western field will continue under the able supervision of Mr. J. R. Sargent with headquarters in Topeka, Kansas.

Mrs. C. L. Walters has been promoted to the position of secretary of the Bedford Stone Club Auxiliary, and Mr. C. H. Badgley, of Toronto, Canada, will act as manager of the Canadian organization.

The attractive little booklet published by the Stanley Works, New Britain, Conn., "Eight Garages and the Stanley Hardware," will be sent free of cost to any one interested in building a garage.

## An Architectural Photograph Suitable for Framing



The New York Public Library by Moonlight

"Sepia Prints mailed to any address

11 x 14	\$ 5.00
14 x 17	7.50
16 x 20	10.00

### Successful Architectural Photography

Composition, light and shade, a complete technical knowledge of the use of special color plates, plus a sense of artistic fitness.

*I Give Special Attention to copying works of Art for decorators, artists, galleries, and to architect's sketches and drawings either in black and white or color.*

*Work done in your office or at my Studio*

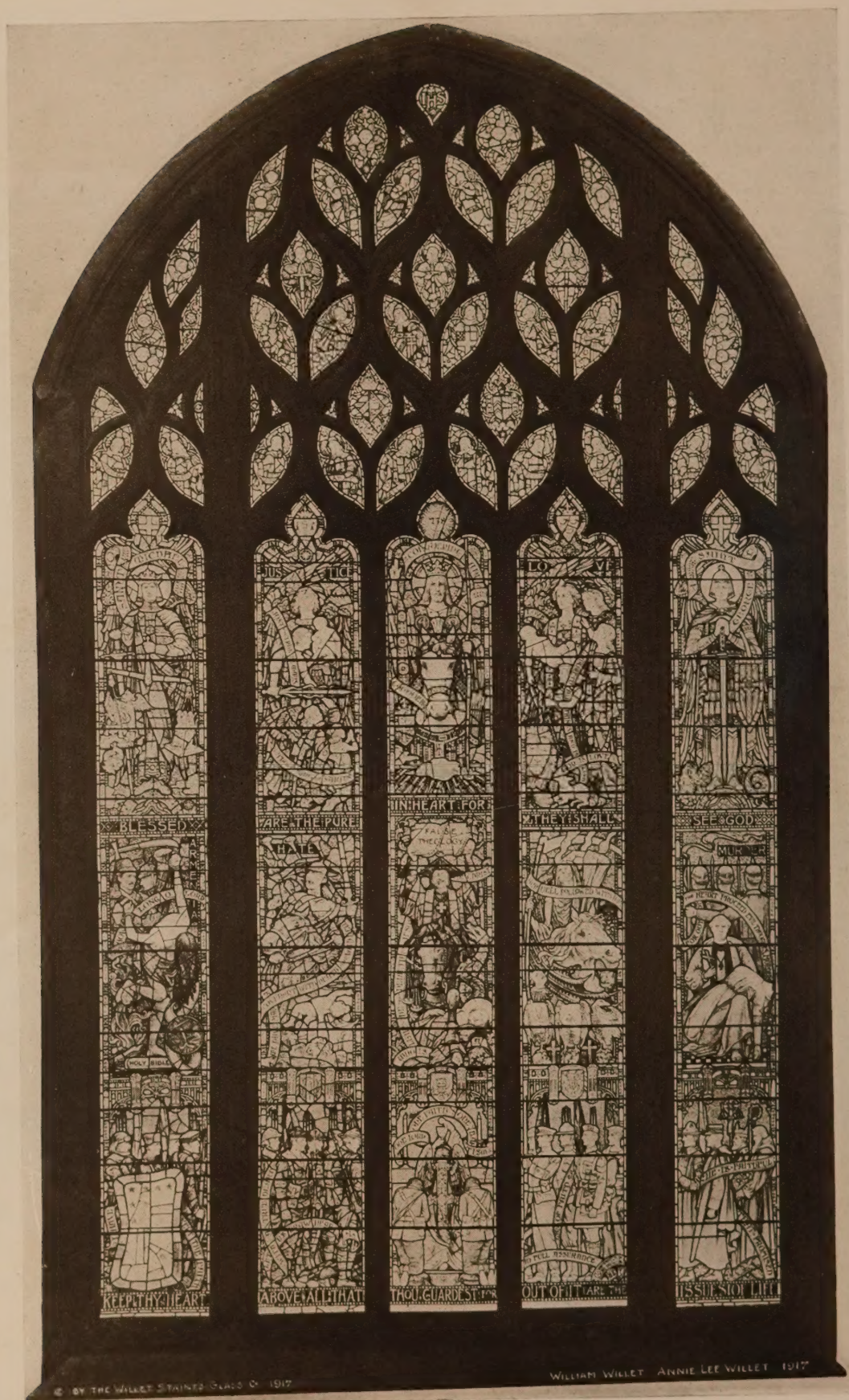
**MATTIE EDWARDS HEWITT**

(Photographer of American Homes and Gardens)

536 Fifth Avenue, New York







THE CONQUEROR—A VICTORY WINDOW.

TRINITY PROTESTANT EPISCOPAL CHURCH, SYRACUSE, N. Y.